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PSYCHOLOGY
AND
MENTAL DISEASE

C.B. BURR, M.D.



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A HANDBOOK
OF
Psychology and Mental
Disease

FOR USE IN TRAINING-SCHOOLS FOR ATTENDANTS
AND NURSES AND IN MEDICAL CLASSES,
AND AS A READY REFERENCE FOR
THE PRACTITIONER

BY

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FOURTH EDITION REVISED AND ENLARGED
WITH ILLUSTRATIONS



PHILADELPHIA
F. A. DAVIS COMPANY, PUBLISHERS
ENGLISH DEPOT:
STANLEY PHILLIPS, LONDON
1916

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Philadelphia, Pa., U. S. A.
Press of F. A. Davis Company
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PREFACE TO FOURTH EDITION.

It is a source of much gratification to the author that the hope expressed in the preface to the third edition has been realized: namely, that this book might become increasingly useful to medical students as well as nurses. The present revision concerns itself largely with those portions of especial interest to medical men.

The book has been very materially enlarged. There will be found a new section entitled "Symbolism in Sanity and in Insanity." Studies have been made of certain paranoid and hysterical states on the basis of Freud's researches and a more detailed description of symptoms and symptom groups incorporated. The section on "Management of Cases of Insanity from the Medical Standpoint" has been amplified and, it is hoped, improved.

C. B. B.

Oak Grove Hospital,
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PART I.

PSYCHOLOGY.

PSYCHOLOGY: *the Science of Mind.*

The word *Psychology* is derived from two Greek words: *Psyche*, Soul, Mind; and *Logos*, Discourse.

The problems of the mind involve those of BIOLOGY: *the Science of Life* (*Bios*, Life; *Logos*, Discourse); and PHYSIOLOGY: *the Science of properties and functions of Living Beings* (*Physis*, Nature; and *Logos*).

LIFE is defined as "a relation or combination of matter and force in which peculiar phenomena (appearances) take place, which are: (1) motion from inherent power, (2) a capacity for appropriating nourishing material (assimilation), and (3) the capability of multiplication or reproduction for the preservation of species. In the higher forms differentiation¹ of structure and development occurs; and, in the highest, sensibility (feeling), intellection (thought), and will (volition)."²

That which distinguishes the living from the not living is the possession of the three qualities or attributes: *Motion*, *Nutrition*, and *Reproduction*—as above mentioned.

The locomotive moves from the force exerted by expansion of water; the automobile, from that occasioned

¹ A production of diversity of parts by a process of evolution or development.

² The late Dr. A. B. Palmer.

by the sudden explosion of gases by means of an electric spark. Inorganic substances change their positions from force exerted upon them (as the rolling of a stone from an earthquake upheaval). Heat and electricity are so-called modes of motion. The acid and the alkali, coming together in solution, make disturbance in the glass (motion from chemical action). All these are illustrations of motion, but not motion from *inherent* power.

Stones enlarge by additions to their surfaces (accretion), but cannot appropriate (assimilate) substances with which to grow.

Two or more stones may be produced from one by a process of breaking or disintegration. They have no ability, however, to reproduce their kind.

Certain plants, on the contrary, demonstrably have motion from inherent power: as witness the sensitive plant, which closes when its leaves are touched; the morning-glory, which opens and closes its petals; the ivy, which climbs the conductor-pipe or the tree; the insect-eating plant, which closes about and absorbs the prey which alights upon it. Plants also have ability to appropriate nourishing material. This is absorbed from the soil, or from the atmosphere, or, as in the case of the insect-eating plant, as above shown. Plants reproduce their kind by contact of the male and female elements. Conclusion (JUDGMENT): Plants possess life.

The lowest form of animal life is that of the amoeba. This consists of a simple mass of albuminoid matter, possessing irritability (rudimentary sensation), contractility (enabling motion from inherent power), and the power of segmentation or division, through which

it reproduces itself. From this low form of life up to man, showing the highest organization, differentiation of structure occurs.

The lowest form of animal life in which a nervous apparatus (and this very rudimentary) appears is the jelly-fish. This animal possesses a muscular, digestive, and circulatory system sufficient for its needs. The oyster has imperfect nervous, muscular, circulatory, respiratory, and reproductive apparatus. The oyster has a bony system, its skeleton being upon the outside and constituting its shell. In the reptile and fish there is a higher development of the bony, muscular, digestive, circulatory, respiratory, nervous, and reproductive systems, with special adaptation of structure to the conditions in which the animal exists.

Special senses are not developed in the lowest animal organisms. In the very lowest form, as the *amœba*, there is irritability; in higher, common sensation (impressions of pain). As the scale is ascended, the tactile sense, and from this on, other senses, as vision, hearing, etc., develop.

That portion of the nervous system contained within the skull and called the encephalon, or brain, has the following principal divisions: the cerebrum, the largest mass, consisting of two lobes or hemispheres connected by a bridge of white substance; the cerebellum, a smaller mass situated behind and below the cerebrum; the pons Varolii, a bridge which partially surrounds the legs or crura of the cerebrum and assists in binding the lobes of the cerebellum together, and the medulla oblongata, which in its lower portion is continuous with the spinal cord. Three membranes, the dura mater, arachnoid, and pia mater, envelop the brain, the pia

lying closely to it and the dura directly beneath the skull. The other principal divisions of the central nervous system outside the skull are the spinal cord and the great sympathetic, the latter consisting of a chain of so-called ganglia,¹ situated on either side of the spinal column and hereafter alluded to under the head of Emotion.

In the higher animals, accompanying certain nervous manifestations, there appears what is called consciousness (mind). Fishes can be taught to come at the ringing of a bell; perroquets and canaries to live in (stage) harmony with their hereditary enemy, the cat, to perform acrobatic feats, propel carriages, fire miniature guns, engage in mimic battle and simulate death; lions and leopards to perform tricks and subordinate savage instincts to the will of man; horses and pigs to indicate numbers; dogs to present an entire play, taking the parts of policeman, fireman, sentimental lover, busy housewife, and nurse for baby. Dogs often display a high type of reasoning and judgment. The word "instinct" employed as indicating the conduct-governing force in lower animals, formerly much in use, is now nearly discarded. Habit associations and inherited tendencies (instinctive) are numerous and obvious in these, but the psychologist no longer denies even to those low in the scale of intelligence a certain degree of ability to group concepts (reason) and to form judgments through which action is determined.

In the highest form of life (mankind) the development of the brain and nervous system reaches its

¹ A ganglion (plural, ganglia) is a nodular mass consisting of an aggregation of nerve cells.

greatest perfection, and manifestations of mind are of the most complex character.

The BRAIN *is the organ of the mind.*

The cerebrum, with which in this connection we are chiefly concerned, is composed of white and gray matter. The white matter is fibrous, and makes up its bulk. The gray matter contains the cell elements, and



The brain as seen from the right side. (Mills, "Nervous Diseases," J. B. L. Co.)

is for the most part found upon its surface, although there are islands of this substance in the interior. The cortex, or covering of gray matter, dips down into grooves upon the surface of the brain, increasing its superficial area very considerably. The raised or prominent portions of the brain found between these grooves are called convolutions, and upon their depth

and perfection of development mental strength largely depends. In lower forms of life and in primitive peoples they are smaller and less definitely outlined than in the higher orders of mankind.

Simplicity in the structure of the brain indicates low mental development, as shown in idiots and imbeciles. As complexity in structure increases, convolutions grow deeper, and gray matter becomes more abundant, mental operations are correspondingly higher. The size of the head, unless it exceeds or falls far below certain limits, is not indicative of the degree of mental development.¹

"No mental modification," says James, "ever occurs which is not accompanied or followed by a bodily change," and experiments upon the lower animals and observations in disease in man show that the brain is the organ of thought. Disturbance of its structure or function interferes with the play of emotion and the faculty of ideation. Serious and long-continued impairment of its nutrition displays itself in settled perversions of thought and feeling. Injury resulting in cerebral concussion may cause temporary or permanent suspension of intellection, and defects in cerebral development are accompanied by partial or complete absence of the higher psychical processes. A child is born into the world the structure of whose brain is anatomically deficient, or the growth of which is impeded by mechanical compression. The result is idiocy or imbecility; the development of the higher intelligence, of judgment and reasoning, is impossible. "The pursuance of

¹ There are both microcephalic (small-brained) and macrocephalic (large-brained or at least large-headed) idiots.

future ends and the choice of means for their attainment," which, according to James, are "the mark and criterion of the presence of mentality," are absent.

The gray matter is the originating and emissive portion of the brain, the white matter the conducting portion. Nervous force originates in the gray matter. The nervous system is comparable roughly to an electric circuit, with its battery of cells, in which force originates; with its white matter of insulated wires, by which the current is conveyed; and with relay stations or substations, the gray islands at the base, in which messages from the central station are grouped and co-ordinated, and in which, under certain conditions, messages from without, carried by the nerves of sensation and special sense, are responded to without the intervention of the main office.

That the Brain is the organ of the mind, and that in the Cerebrum (the large brain) reside the higher mental faculties, is shown:—

1. By experiments on the lower animals. The pigeon deprived of the cerebrum remains apathetic and drooping. If thrown into the air, contact with this element produces, through what is known as reflex action, the muscular movements of flying, but these gradually become feebler until the bird sinks to the ground. If food is placed within its reach it is not voluntarily appropriated. If inserted far back in the mouth, food is swallowed through reflex action. The frog deprived of its cerebrum rights itself if an attempt is made to turn it over. If pricked or prodded, it jumps, but is quiet and motionless unless disturbed by contact with something. It initiates nothing. The behavior of animals thus deprived of the cerebrum is akin to that of human

beings suffering from profound dementia (*acquired* mental impairment).

2. By disease of the brain, which is so often associated with disturbance of the mental operations.

3. By the mental deficiencies which exist in connection with lack of cerebral development, as in idiots and imbeciles.

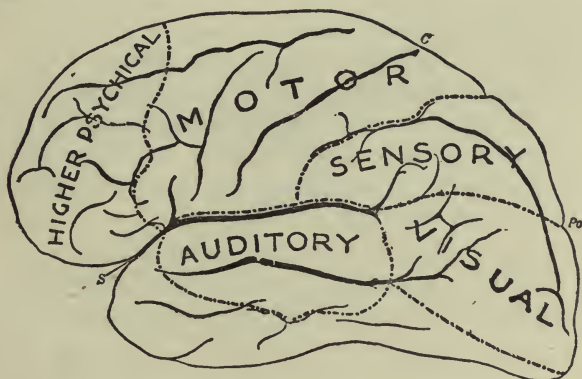
A definition of mind is impossible. It is known only through its operations. I am conscious of my mind from evidence within (subjective). I am conscious of mind in others because they act in obedience to outward, or apparent, circumstances as I do myself under similar conditions (objective evidence). Their so-called "reaction to their environment" is similar to my own.

As to the relation between mind and brain, this much, and only this much, is definitely known, that upon the relative integrity of the latter, the natural operations of the former more or less closely depend. As to what consciousness is—that subtle something through which we are made aware of ourselves, of our environment, of our relations to society, by means of which we act and think and feel intelligently—we are on no better ground of knowledge than were the philosophers of long ago who knew not the use of the scalpel, the microscope, and the staining agent.

The prefrontal lobes of the brain have been designated the "higher psychical." This is perhaps objectionable, inasmuch as the brain in its entirety is the great psychical organ, and all portions of it in some way participate in the thinking processes; but it has been shown by investigations upon the brains of lower animals that, as a result of destruction of portions of

these lobes, inhibitory control and capacity for close attention and intelligent observation are impaired. If they are destroyed completely there arise alterations in the personality and incapacity to form serially groups of images or re-presentations.

The cortex, or gray covering of the brain, is largely composed of layers of nerve cells of different shape and size and of infinite number. Those of the so-called



Physiological lobes of the cerebrum, lateral aspect: S, Sylvian fissure; C, central fissure or fissure of Rolando; Po, parieto-occipital fissure. (Mills, "Nervous Diseases," J. B. L. Co.)

pyramidal cell layer are thought to be chiefly concerned with the psychical functions because of the peculiarities of their distribution and their numerical diminution and imperfection in the brains of those of low order of mental development, as idiots. The so-called psychical neurone is of tree-like form, the body, with the thicker portion of the process extending from it, representing the trunk, and the tuft-like expansion, the foliage. The

neurone also has a body with nucleus¹ and nucleolus² and a system of fibers passing through it which unite at the basal end into the axis cylinder or axone, through which impulses generated within the cell-body are conveyed outward.

The prolongation from the cell, called the axone, is insulated by a sheath throughout its entire extent. This insulation is for the apparent purpose of preventing dissemination of impulses along the fiber. Berkley says that the researches of Flechsig have shown that at the time of birth the human infant possesses only a narrow region bordering on a fissure, called the Rolandic, which contains fibers having these sheaths. In the first month two other small areas in the cortex show beginning insulation, and from this time on, as intellectual activities increase, further and further insulation of fibers shows itself in other areas. He also says that in the earliest stages of brain growth when the nerve cells have reached nearly their adult proportions, Flechsig finds only four centers that show signs of a tendency toward individual insulation of the nerve fibers of the cortex. The principal fibrous prolongation after leaving the cell body throws off collateral branches. Through these collaterals association contacts in the brain are established, and upon the perfection of their development and the multiplicity of their connections with other cells the faculties of discriminating judgment and of comparison of impressions with other impressions are supposed by some to depend.

Association paths between the different areas of the

¹ A center of growth—a kernel.

² A body within the nucleus.



Illustration of the neurone. *A*, axone with collaterals; *B*, apical dendrite, showing gemmules; *C*, lateral dendrites; *D*, cell-body. (With grateful acknowledgment to J. F. Burkholder, M.D., Chicago.)

same hemisphere and between the two hemispheres by the bridge called corpus callosum are more numerous and intricate as mental development increases. Microscopical anatomy demonstrates that up to maturity there is a steady increase in means of association between cells of the cortex. Each cell with its processes is separate and distinct from its fellows. It exists as an individual unit anatomically, and is independent of the myriads of others in the nervous system. Contact is not made directly between the prolongations of one cell and the tufts of others, but an interval exists, and upon the theory of failure of contact or delayed contact has been built up the retraction theory of psychical cell association. It has been assumed that in the rapid flow of ideation, this contact is continuous and exact, discontinuance or break resulting when the particular association in thought is no longer required or when the flow of ideation is arrested by fatigue or changed conditions. Thus the inability to recall a name or an incident may be due to the failure of contact between the different nerve-cell elements concerned in the association which would in normal conditions arouse the memory.

The faculties of mind are three:—

1. THINKING (intellection, thought).
2. FEELING (sensibility, emotion).
3. ACTING (will, volition).

Thinking.

Development of the Mind.—Knowledge is derived through the medium of the SPECIAL SENSES and mental development depends upon the reception of impressions

from without and their comparison with those already stored in memory. These SPECIAL SENSES are six in number:—

1. *Hearing*: mental impressions through the auditory apparatus.

2. *Seeing*: mental impressions through the visual apparatus.

3. *Smelling*: mental impressions through nerves supplied to the nasal mucous membrane.

4. *Tasting*: mental impressions through nerves supplied to the tongue.

5. *Touch*: mental impressions through sensory nerves supplied to external parts of the body, skin, and mucous membranes.

6. *Muscular*: mental impressions as to force and resistance derived from contracting muscles.¹

There are necessary to the mental upbuilding:—

1. SENSATION.

2. PERCEPTION.

3. MEMORY.

4. IDEATION.

5. REASONING.

6. JUDGMENT.

A SENSATION is an impression made upon an organ of sense, which organ must be composed of three parts:—

1. A nervous mechanism to receive the impression.

2. A sensory nerve, or nerve of special sense, to convey the impression to the brain.

¹ Compare the impression received from compressing a rubber ball with that from a similar attempt upon a piece of steel. The essential difference between the touch and the muscular sense is plainly apparent.

3. A nerve cell, or group of cells, to receive the impression.

Take the eye for illustration. A ray of light from some object falls upon the retina. An impression is conveyed through the optic nerve to the center of sight in the brain and there received. This is a simple sensation. SIGHT, or SEEING, is a different thing, however, and *involves*, just as hearing, smelling, touch, taste, and the muscular senses do, *something else*, which is called



Illustration of simple sensation of touch. Arrow represents impression conveyed by sensory nerve to nerve-center in brain.

PERCEPTION. This is at the very foundation of thought and is *the conscious recognition of the external causes of sensation*.

To illustrate: nothing is so helpless as the human infant at birth. Unlike the chick, which as soon as it emerges from the shell helps itself to food placed in the incubator, the child is utterly dependent and without means for self-preservation or protection. It is an unorganized bundle of tissues and passes during the

early weeks of life a purely vegetative existence." At three months of age or thereabouts the child is said to "notice"—that is to say, it takes cognizance of what comes before it. It follows with the eyes a candle or a ball of bright yarn, watches for them and associates pleasant sensations with them. It *perceives* that the candle or the ball of yarn is the cause of an agreeable feeling. This, the conscious recognition of the cause, is Perception. When first a nursing-bottle is placed to its lips, these close down about the nipple and the opera-



Illustration of visual perception.

tion of sucking begins. There is an impression conveyed by the touch and taste organs of the mouth, through corresponding nerves, to the sensory, or special sense, centers in the brain; from these centers reflected upon motor nerve-centers in the brain, and through motor nerves going from the brain to the muscles. Result: the operation of sucking, which is at first a purely reflex act. Later, the child watches for the bottle of milk, extracts its contents when offered, or helps itself if the bottle is placed in the cradle. There is here Perception: the recognition of the external causes of the sensations which the bottle and its contents furnish.

There are necessary to Perception:—

1. A nervous mechanism to receive impressions.
2. Sensory nerves, or nerves of special sense, to convey impressions.
3. Nerve-centers in the brain to receive impressions.
4. *Consciousness.*

Perception is made up from a number of distinct percepts; as, for example, form, size, color, vibration, density, taste. These individual impressions united, and with the aid of consciousness, form a percept of the object.

In order that percepts once acquired may be stored up for future use, there is necessary another mental faculty, which is

MEMORY. This is *the faculty which enables the retention and reproduction in mind of impressions received.*

Impressions proceed from the different organs of sense to areas of the brain in which they are registered. Memories of percepts are created. Of the function, memory, Scripture writes as follows: "If I were writing a dictionary, I would define memory as that portion of mental life about which everybody has been talking for three thousand years without finding out anything more than anybody of common sense knows beforehand." Bergson, in "An Introduction to Metaphysics," makes use of the vivid expression: "I notice the memories which more or less adhere to these perceptions and interpret them." So much for memory. It is known only through its manifestations.

There are two kinds of Memory:—

1. Memory of percepts.
2. Memory of self (Organic Memory).

The memory of self (organic memory) permits the registration and storing up of impressions from all parts of our bodies: from the skin, bones, muscles, and internal organs. These are for the most part sensory memories carried originally by inward-conducting (sensory) nerves. There are also motor memories originally collected from muscles influenced to action through outward-moving impulses from the brain.

Upon this memory-storing the Ego—the Personality—depends. Sensations such as are here mentioned do not, as a rule, come into consciousness independently; but, taken together in health, they constitute our feeling of well-being: our sense of self. In disease we may become, at times, acutely conscious of some or all of them. The development of the personality is extremely interesting.

The child at first is unconscious of its own existence, of its own individuality. It refers to itself in the third person: "Johnnie wants it," "Mamie wants it." The Ego—I—is not present. The child inspects its fingers and toes, as it does that which is held before it, as something foreign to itself. Later, organic sensations proceeding from the fingers and toes and impressing themselves upon the consciousness give to the child the recognition of proprietorship. The organs become part of the child's body. The existence of the child at first seems to be of a dual character. Later, the Ego is formed—the personality—through sensations proceeding from all the organs and tissues of the body and registered in the organic memory.

The PERSONALITY is of great interest to those studying insanity, for in disease of the mind it is frequently found that alteration in organic sensations has given

to the individual an impression of bodily loss or of change in constitution. Change in sensation, proceeding from the foot, may lead to the belief that this member is lost or dead. Change in nervous action and checking or hindrance of mental operations may lead to the delusion that the mind is under the control of another. Defective elimination from torpor of the stomach and bowels, causing a metallic taste in the mouth, may occasion the belief that poison has been administered; inadequacy or impotence in the sexual sphere arising from over-indulgence or indiscretions may be attributed to a "charm" or hypnotic influence exerted by another who has given real or fancied ground for jealousy.¹ Change in the action of the nerves of the skin may occasion the belief that electricity or some harmful agency is at work upon the body. All sensations, indeed, may be so altered in insanity as to lead to the belief in a double personality.

This is not difficult to understand when we call to mind the clod-like, heavy, foreign feeling of a frozen foot, or that of an extremity which has been separated from vascular and nervous connection with the trunk by a tightly constricting elastic band. Here the sensory nerves are blunted, and sensations proceed from the tissues above the affected point. The organic memory may be so vivid in its reproductions as to convey to the

¹ Here wise discrimination is necessary on the part of the examiner. An insane delusion is no less a delusion because there may be fundamentally good reason for criticism or distrust of the one toward whom it is directed. It is the character or quality of the belief—its reasonableness—which is significant.

soldier the consciousness of the presence of an amputated extremity.

IMPRESSIONS taken cognizance of, or *perceived* by, the mind are hoarded by *Memory*.

The process of grouping percepts together (Re-presentation—Re-collection) by the aid of Memory, to form concepts or ideas, is called IDEATION.

Through impressions coming into consciousness, primitive notions of size, consistency, odor, taste, etc., are formed. Grouped together, these form a percept of the object in its entirety, and these primitive percepts associated by the aid of memory form concepts or ideas.

Illustration: Take an object in the hand; receive all the impressions possible from it through the medium of common sensation and the special senses. There is here a group of impressions coming into consciousness, constituting a percept of the object (Presentation). Remove the object, and associate the different individual percepts together through the aid of memory. It may still be seen, or heard, or felt. Thus is constituted a concept, or idea, which is a group of percepts reproduced in memory (Re-presentation—Re-collection).

On contact with the flame of the candle the child's finger is immediately withdrawn. This, a simple reflex act, is carried on through the sensory nerves, the conducting paths of the cord, the ganglia at the base of the brain, and the motor nerves. With this first experience of the candle, however, there is registered in perceptive centers the memory of disagreeable sensation. Next confronted with the candle, the child draws back in terror. Associated with the sensory memory are others of a visual character which enable the child to identify

the candle as the cause of the previous painful experience (Perception, Ideation). Later on, as its observation increases, there is a tentative investigation and pleasurable percepts arise from the proximity of the light, Judgment (the higher control) having meantime been set in operation to restrain the child from putting its hand into the flame. Later come the concepts connected with the use of the candle, and from this time all manner of association of concepts and judgments based thereupon may arise. In the first instance the simple reflexes were involved. In the second there come into play simple associations of concepts, and in the latter the higher cerebral functions of Reasoning and Judgment.

For the second process, the visual perceptive centers in the posterior brain and the conceptual centers in the midbrain come into play; for the third, the higher cerebration, association of concepts to form judgments, there is demanded, in addition to the interaction of the different portions of the brain already alluded to, the action of the forebrain, or the so-called prefrontal lobes.

REASONING.—This faculty is also necessary to the development of the mental life. Reasoning is *the association of concepts, or ideas, to form a judgment, and the association of judgments to form new judgments*. In reasoning, we weigh and compare concepts, or ideas, by their likeness, or similarity, and by their unlikeness, or dissimilarity.

Passing along the street of a strange city, I observe banners waving, bunting and floral decorations conspicuously displayed. The faces of those met wear cheerful expressions. I hear lively airs played by dis-

tant bands. Association of these concepts by the aid of memory of previous experiences permits the judgment that a fête is in progress or about to begin.

Dirge-like music, flags at half-staff, the booming of guns, the tramp of marching feet call up the judgment that a military funeral is in progress.

A loud-toned bell strikes one—two, one—two—three, a siren whistle peals out, there is a rattling of hoofs on the pavement, bells clang, and a rumble of



Illustration of concept, or idea. Each grape represents the memory of a percept. These united by the stem, ideation, form the concept.

rapidly moving vehicles is heard. There is a sudden hush in other traffic on the street. Those sitting near me playing cards prick up their ears and count the strokes of the bell, then turn and resume their play—all save one. He hurriedly leaves the room. Judgment: 1. A fire is in progress. 2. It is in the precinct in which the one resides who has so hurriedly made his exit.

The association of the sound of the deep-toned whistle and the slowing of machinery calls up the

judgment that a fog has settled down and instantly there arises the fear of collision unless navigation is carefully conducted. The association may be carried so far that fear and trepidation are lost in speculation upon the size and shape of icebergs and the probable loss of time in the ship's running consequent upon the unexpected incident. Previous concepts connected with the ill-fated Titanic may be revived and a whirl of judgments fully or fragmentarily (according to the degree of expert knowledge one possesses) formed as to the expediency of building steamships of that class, as to the divorcement of practical navigation from business management, and the necessity for complete independence of the ship's captain at sea; as to the practicability of larger and more varied life-saving equipment, as to the claims of the weak and defenseless, and as to the toweringly high quality of American manhood and chivalry displayed *without exception* in this shocking disaster.

Use for illustration, the naturalist's classification of the animal kingdom. A similarity in structure, in that all possess a spinal column, causes large numbers of animals of widely different appearance to be grouped under the designation *vertebrates*. So of other orders: essential differences in structure separate the *mollusks* from the *articulates*, and the *articulates* from the *radiates*. To go further, closer anatomical or physiological resemblances cause the division of the vertebrate kingdom into families, or subclasses: mammals, birds, reptiles, and fishes. This process of weighing, comparing, and measuring is called Reasoning, and the result of the process, Judgment.

Associate concepts of *compression* and *steam* (ex-

panded water). There is called up the concept of force, and a container of metal to supply resistance that the force may be utilized. Judgment: Expanded water confined in a receptacle of steel—a boiler—exerts great force, and may be used in moving powerful bodies (locomotives).

Again: Compare the idea, or concept, *man*—which involves many percepts of his different attributes—with the concept *reptile*. Judgment: Man is the superior being.

Again: One looks out-of-doors upon a cloudy sky. He perceives the absence of sunlight and the direction of the wind; is conscious of, or perceives, a chilliness. He groups these percepts together, and by the aid of memory reduces them to concepts. There is a recollection of past experiences. He associates the concepts together by reasoning. Result: Judgment, that the day will be unpropitious for a picnic.

JUDGMENT: *The result of a comparison or association of concepts, or of the comparison or association of judgments.*

Let two telegraph-poles be taken as representing each a concept, or idea. Reasoning is the wire that unites the two; Judgment is the result of the union.

Or let each pole represent a judgment. The wire, reasoning, unites the two, the whole forming a new judgment.

To recapitulate:—

Sensation + Consciousness = Percept.

Percept + Percept + Memory = Concept.

Concept + Concept = Judgment,

or

Judgment + Judgment = New Judgment.

The plus sign which stands between the words *Percept* and *Memory* is the equivalent of *Ideation*.

The plus sign which stands between the words *Concept* and the words *Judgment* is the equivalent of *Reasoning*.

As before stated, Sensation, Perception, Memory, Ideation, Reasoning, Judgment, enter into the thinking process. If any avenue to the brain is closed, as by congenital deafness or blindness, mental development and mental ability are correspondingly lessened, although scientific methods applied in the education of the remaining senses go far to remedy the deficiency. The experience in the case of Helen Keller, congenitally blind and deaf; her astonishing mental development, through education by means of the tactile sense, constitutes an entire book of Psychology.

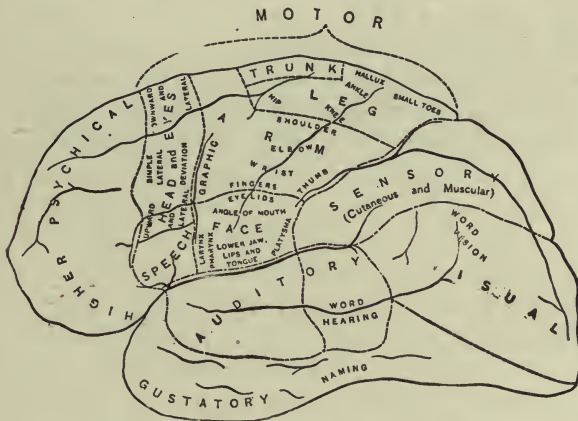
Thought in man is usually, perhaps invariably, conducted in words or their visible signs. Let anyone try to think and he will find that he is mentally grouping words together into sentences and that his unspoken idea is framed as if it were to be expressed. The deaf-mute, who has not a vocabulary of words, thinks in visible signs; that is, in gestures which stand for the representatives of ideas.¹

The Localization of Function in the Brain.

The study of cerebral topography has made rapid strides during the last quarter-century. Since 1870, at which time Hitzig showed, through experiments on the brain of a dog, that co-ordinated movements could

¹ See footnote on page 39, and the chapter "Symbolism in Sanity and in Insanity," page 51.

be produced by electric irritation of certain definite regions of the cortex, and the period, a trifle later, of Ferrier and Munk, who, through irritation and excision of the cortex, mapped out certain regions having to do with definite special senses, knowledge of the subject has been steadily increasing and is becoming more and more accurate. This knowledge has in recent years



Zones and centers of the lateral aspect of the human cerebrum. (Mills, "Nervous Diseases," J. B. L. Co.)

been greatly augmented by the tremendous advances made in cerebral surgery through the work of Horsley, of England; Cushing, of America, and others. The best-known area is that of the motor region of the cortex. Mechanical irritation of different parts of this motor area produces co-ordinated movements. From this region motor incitations pass out to centers in the medulla and cord, and are discharged upon the muscles; and pressure or structural disease in a given

locality in this motor area produces loss of power in the group of muscles innervated therefrom.

In other areas are situated the psychical centers of vision, hearing, and smell, and their destruction involves a loss of memory of percepts derived through the medium of these special organs. In mental blindness there is a lack of recognition of familiar objects, and there may be such failure as to persons with whom one has been on intimate terms. There are all degrees of cortical, visual blindness—from the inability to comprehend the meaning of written and printed words to that extreme involvement of the psychical centers already mentioned. The occipital lobe and the adjoining area of the parieto-temporal lobe, called the angular gyrus or convolution, contain this visual center.

The psychical center for hearing is located in the first and second temporal convolutions. Lower down in the temporal and in nearby portions of the brain are presumably located the centers for taste and smell. One may be mentally deaf notwithstanding the fact that the organs of hearing outside the brain are intact. In a general way the sensory part of the brain is located posteriorly, the motor portion anteriorly. In the latter portion is found the interesting convolution of Broca in which are located the memories for articulate speech. *Aphasia*, inability to remember words and apply them in their proper relation, may be total or partial. The enunciation of a considerable number of words or sentences may be possible, or the vocabulary limited to a few, as "yes," "no," and "you." I have had under observation a patient whose sole exclamation is a sound like "ein." This she gave forth with varying inflections and her manner betrayed disgust or reproachful-

ness that her communications were not correctly interpreted. She apparently understood all that was said, but her word-forming power was *nil*. In this case there was also *agraphia*, or inability to express thought in written characters. These two conditions, though not necessarily, are commonly associated. One may write and understand written or printed speech when deprived of the use of spoken language.

Aphasia due to the lack of word-forming capacity or the loss of object-naming power is not to be confounded with the inability to articulate distinctly and the gradual loss of speech so common in a certain form of brain disease, *paretic dementia*. Here the involvement affects the motor zone in its entirety, and the resulting impairment is that of ability to co-ordinate muscular action—that is to say, to work muscles together. This symptom is called *Ataxia*. *Apraxia* is another symptom sometimes associated with aphasia. It is due to the loss of recollection of the uses of objects. Handed a pencil, the patient inserts it in his mouth. He attempts to polish his shoes with a jews-harp and to comb his hair with a hammer.

The zone of language is said to comprise three centers and has been enlarged by certain authors to include a conceptual center. Mills says of the zone of language that it includes three centers, namely, that for the images of articulation, that for auditory images, and that for visual images. "Each of these centers is situated in the part of the zone of language which approaches most nearly to its corresponding general zone, motor or sensory. The motor center of articulation is in proximity to the psychomotor region, the center of visual images approaches most nearly the general

visual zone; and the center of auditory images is in close relation with the general auditory sphere. In this zone of language the center for auditory images is that first evolved and most deeply organized. As a rule, the child's first ideas of language come through hearing; articulate speech is next evolved; the child hears, and it speaks; it learns to repeat the names of persons and objects with which it comes into relations; later, in those who become educated, a center for the visual images of letters and words is organized, and still later, at least according to some authorities, a center for graphic motor images. The auditory and motor speech centers continue to be for the vast majority of people most important constituents of the zone of language."

Feeling: Emotion.

Were logical order followed, *Feeling*, or *Emotion*, the second manifestation of mind, should have been considered previous to thinking, inasmuch as feeling (sensibility) must inevitably precede thinking. The term "feeling" must not be confounded with the sensation springing from the special sense of touch. What is understood by "feeling," as the word is here used, is a bundle of mental experiences, some of an agreeable, others of a disagreeable, character. The majority of concepts are, in some degree, pleasurable or painful—that is, there are few which may be classed as entirely neutral: from which some satisfaction, or the reverse, is not derived. To the extent to which ideas are accompanied by pleasurable or painful feelings they may be considered emotional.

An emotion, therefore, may be defined as *an idea accompanied by a feeling of pleasure or pain*. As the feeling preponderates the idea grows less and less distinct until almost overshadowed. The word "Emotion" comes from two Latin words: *e*, from, and *motio*, motion. In the emotions lie that which moves to action. Desire, loathing, mirth, sadness, affection, hate, faith, fear find through the emotions their varied means of expression. Apart from the vocal attuning which the feelings occasion in speech there is a separate physical language of the emotions. Witness the blanched face, the contracted muscles, the dilated pupils, and protruding eyes of Fear; the flushed face and swelling throat of Rage; the anxious or relaxed and downcast physiognomy of Mental Depression; the bright eye, the clapping hands, and laughing expression of Pleasure; the cooing sound of Satisfaction.

The emotions lie close to the organic (bodily) functions. They find their quick reflex in the muscular expressions of fright, pleasure, despair, and comfort, already referred to, as the idea of unemotional character finds its slower expression by the organs of speech or voluntary action. Displaying in themselves the earliest states of consciousness, the emotions are among the first to suffer in mental disease, as will be hereafter shown. The individual breaking down with mental disease reacts to painful or pleasurable impressions with an unaccustomed intensity.

Emotional states are accompanied by certain phenomena referable to the action of the so-called sympathetic nervous system. This consists of a double chain of ganglia extending from the base of the brain along the sides of the spinal column to its tip and of

certain ganglia scattered among the organs of the chest, abdomen, and pelvis. Fibers from the sympathetic are distributed throughout the body generally; indeed, more generally perhaps than those of the cerebro-spinal system. Their function seems to be emotive and nutritive. They go to the stomach and intestines. (Everybody knows that bad news arrests the digestive processes.) They are distributed abundantly in the heart. (We speak of heart-sickness, of heart-break.) They control the caliber of the blood-vessels. (Hence the flush of embarrassment, the pallor of rage.) They are distributed to the radiating surface of the iris (whence comes the pupillary dilatation of fear). They supply the kidneys (the increase of whose function is so notably affected through fear). They govern other glandular secretions. (Under emotional stress the mouth grows dry and parched, and in rage the nursing mother's milk becomes unfit food for the offspring.)

Emotional states are attended by characteristic muscular movements. The teeth are set in anger, the eyes opened widely in deprecation, the brow corrugated in pain, the nose elevated in contempt, the head unconsciously oscillated under humiliating recollections. The shrug which accompanies doubt or misgiving, the attitudes of prayer, of pleading, of remorse, of prediction, the wringing of the hands in despair, the clapping in appreciation, are universal modes of emotional expression. Among members of the unfortunately designated "brute creation" the horse neighs; the cat purrs with satisfaction; the dog wags his tail in pleasure, lowers his ears in chagrin, and displays his teeth when threatening. In the feathered family the peacock is notori-

ous for the exhibition of vanity, the cock for strutting in triumph, the goose for shallow defiance.

The relation of emotion in the abstract to muscular expression is profitable for study, not only because of its psychological interest, but because of its practical bearing upon human conduct. Clench the fist and shut the teeth firmly and there immediately arises in consciousness a sense of resentment, of pugnacity. Draw down the corners of the mouth and the emotional tone takes on a shade of depression. Elevate them and a pleasurable sensation follows. This has an important relation to mental development. To cultivate the muscular play that accompanies pleasurable states must inevitably affect the disposition of the individual in a favorable manner. Apropos of this, one patient who was highly tearful was advised to assume a happy expression and this couplet was quoted to him:—

“Laugh and the world laughs with you,
Weep and you weep alone.”

“That’s all very well,” he said, “but it’s written different nowadays. Now it is ‘Weep and the world laughs at you.’”

Sitting in my room, distant from the window, memories connected with the automobile are revived by the auditory percept “honk honk.” The sound of hoofs upon the pavement perceived at the same time is suddenly arrested, screams are heard, and there is a crashing noise. I am re-minded (memory concepts re-collected) that one of my family expected to drive out at this hour. I am impressed that the sound of hoofs resembled those of my peculiarly gaited horse and that the “honk honk” proceeded from a horn an auxiliary

to the automobile of a friend. Associating concepts by reasoning, the judgment is formed that there has been an accident and the emotion (Feeling) of fear inspires desire to investigate. I *will* to verify or disprove the judgment by adding new visual percepts, and hastily make my way to the window.

There are here present
 Percepts and percept association,
 Percept association with memory aid (Ideation),
 Concept association (Reasoning),
 Judgments, the result of concept association,
 Emotion inspired by concept association, and
 Volition prompted thereby.

Feelings call forth desire. DESIRE forms the connecting link between feeling and that which is next to be considered, viz. :—

Volition.

VOLITION may be defined as *action prompted by desire and representing choice*. Thus, it is to be distinguished from all other forms of action not so prompted: from simple reflex action, already spoken of, and from higher reflex (automatic) action.

In speaking of perception in the child, reference was made to the operation of taking food. At first this was an unconscious and purely reflex act. There was transmitted to the child a nervous mechanism that, excited by the presence of the nipple to the lips, occasioned the muscular act of sucking. Through inherited transmission the child was endowed with this simple instinctive power. Through ages the nervous mechanism in

use in the appropriation of food has acted in definite ways, and nervous channels, so to speak, have resulted. Sensory impulses have traveled from lips and tongue to the cerebral sensory centers; they have been reflected upon motor centers, and traveled back along the motor nerves to groups of muscles about the tongue and throat. Impressions registered in the organic memory, and action prompted thereby have enabled the appropriation of food to go on until such time as desire impels and voluntary action permits the gratification of appetite. This constitutes one of the few inheritances of the human infant.

The organic memory of pain and the reflex act of crying (the expression of pain in the absence of conscious suffering) is another inherited quality. It is the organic sensation of hunger, which expresses the demand on the part of the system for food, that impels to the taking of food before there is conscious recognition on the part of the child of its own wants or the ability to gratify them. Later on, voluntary action—action prompted by desire and determined by choice—appears. Compare the child with the chick, which, immediately after emerging from the shell, walks about in search of food and picks it up, takes refuge under its mother's wing when called, or flees from the cat, and displays, from the first, adaptabilities and powers which, in the child, are the result of education. Mental development, except under rare circumstances, however, goes little further in the chick. It is, in all essential respects, the mature animal. It is through prolonging the period of infancy that evolution has brought about in mankind the capacity for high mental development.

Again, certain acts which the child laboriously and tediously acquires become, by the assistance of the organic memory, automatic in their character. Take the illustration of walking: It is in the child the result of slow education of the nervous centers. Behind it there is at first a feeling of desire to walk; then comes the education of the voluntary muscles of locomotion. Eventually, by means of the nervous channels established in the brain and cord, walking is carried on automatically, the initiation of the movement only being voluntary. The child walks, runs, and turns about, all without the conscious exercise of volition. Contact with the ground, the sensory impulse proceeding by the way of the spinal cord to the brain, its reception by the sensory centers, its reflection upon the motor centers, and through the motor nerves to the muscles concerned in the act, are the steps in the process.

So of self-defensive acts. At first the child requires to be protected from all manner of harm. Later, through education, it acquires self-defensive ability and involuntarily shields itself from that which threatens. One is conscious of averting danger, or of taking self-defensive measures, oftentimes after the act is completed. He raises the arm to ward off a blow and *sensing* (not perceiving) a stumble he throws himself from the saddle and alights on his feet as the horse falls. All sorts of habits of life are thus formed. Winding the watch before retiring frequently takes place without consciousness. The act of locking or unlocking a door is done automatically. Piano-playing, an accomplishment tediously acquired, is finally carried on through the organic memory without appreciable

voluntary effort except in the act at its beginning. *These are higher cerebral reflex acts.*

The Higher Volition, like the other faculties of mind, is a plant of slow growth, and involves discrimination, comparison, weighing of ideas, and judgment as to the best course to pursue. It is difficult to determine when the child first exercises volition. The choosing between that which is sweet and that which is without marked flavor, but better for his needs, is, to



Illustration of volition.

be sure, an action prompted by desire; but the higher volition implies discrimination between that which is profitable and that which is unprofitable. Cultivation of the reasoning and judgment are necessary to this.

The education of the will is most important to the future of the child. The matured judgment places an inhibition—a restraining influence—upon the actions, that decision between that which is ultimately good and that which is immediately gratifying may result. It may be a source of present satisfaction to smite in the face one who has injured me, but the higher volition restrains the act.

The law rightly makes distinction between impulsive acts and those prompted by deliberation and choice.

One in the heat of passion kills another who has seriously wronged him. Here the judgment was obscured by the emotional feeling, and a muscular act resulting in death occurred. On the contrary, brooding over a wrong, one deliberately decides to kill, and carries his plan into execution. In the one case the act was semi-instinctive, self-defensive in a way. It was prompted by sudden resentment, and the emotion obscured the judgment. Result: manslaughter. In the other case there was a deliberate choosing, a careful adaptation of means to ends, a judgment and a will to kill. This was murder.

It is important to distinguish between

Simple Reflex Acts,

Higher Reflex Acts,

Volitional Acts, and

Inhibitory Acts (a variety of the volitional).

The first—Simple Reflex Acts—are instinctive: as the involuntary withdrawal from contact with that which is painful; winking; breathing.

The second—Higher Reflex Acts—were originally voluntarily acquired—learned—but, once learned, go on, in a measure, automatically, the volition, if exercised at all, merely initiating the movement: as the act of walking.

Volitional Acts are those which spring from desire and represent choice: as the putting on of rubbers in wet weather, to protect health.

Inhibitory Acts—a variety of volitional acts—are those which check the immediate response to desire and impulsion, and introduce a restraining influence—a “will not to do,” so to speak. The higher volitional and inhibitory acts imply the exercise of judgment.

LIMITATIONS OF THE WILL.

1. The will has no prolonged power over involuntary muscles. Let one try to stop breathing, and demonstrate this for himself.

2. The will does not control movements which have not been acquired by practice. One may satisfy himself of the truth of this in his first bicycle ride.

3. Painful thoughts cannot be dismissed from the mind by an effort of the will. They must be supplanted and crowded out by introducing others.

General Considerations.

All of the foregoing has its bearing upon the study of mental disease. In insanity any or all of the functions of the mind may be disturbed.

Any or all of the elemental processes of sensation, perception, ideation, reasoning, judgment, memory, may be impaired. Upon the integrity of these elemental processes and those of emotion and volition depends our normal relation to our environment, and it is interesting to consider from a psychological standpoint in what manner and to what degree these elemental processes are disturbed in different states of mental excitement, depression, or weakness.

SENSATION may be impaired or lost. The special senses of taste and smell may be so much at fault that the vilest substances placed in the mouth do not excite disgust. In such a case PERCEPTION also fails. Faulty perception may further manifest itself in Hallucinations and Illusions.

Sensation is altered or lost in hysteria, in epileptiform states, in pseudoparetic states dependent upon

syphilis and alcoholism, and in the various forms of dementia. It is a matter of experience that sensation may travel more slowly and be less acute in the mentally diseased than in the healthy individual. Sensation is impaired in apathetic conditions, is increased in maniacal states, in delirious states, and in the frenzied periods accompanying certain forms of manic-depressive insanity.

Perception is perverted in certain manic-depressive states, is delayed in apathetic states, is transformed into hallucinatory states in acute excitement and depression, in different forms of delirium, in paranoia, in dementia præcox, and in organic brain disease, but may be outwardly undisturbed in the recurrent type of manic-depressive insanity.

A *Hallucination* is a false perception without an objective reality. Example: One, looking upon the bare floor, fancies he sees a snake. There is nothing whatever upon the floor which could lead to that perception. He is suffering from a visual *Hallucination*.

One looks upon a carpet with bright figures and irregular tracings, and sees in the bright figures birds of brilliant plumage, and in the tracings of duller colors snakes or rats. He is suffering from an *Illusion*, that is, a false perception with an objective reality.

He hears the sound of steam escaping from the radiator, and, in this sound, the voice of some one threatening to kill him; in the ticking of his watch he hears commands; in the locomotive whistle he perceives calls and shrieks. He is suffering from illusions of hearing. He hears a cry when all is still; he has an auditory hallucination. Thus, in smell, taste, touch, and the muscular sense hallucinations and illusions

may develop. The weight of the bedclothes may give the impression, through the muscular sense, of a heavy load; or one may fancy himself exerting great muscular strength, may even perspire and become manifestly exhausted through efforts to sustain bodies which in fancy are burdening him, while, in fact, he is entirely free from any weight or pressure.

Hallucinations of hearing exist in insane patients who have deafness, acquired; of vision, in those who have become blind: there could be no better illustration of the fact that we hear and see with the brain—the mind—not with the eye and ear. The inference follows that hallucinations of hearing or vision in one congenitally deaf or blind would be impossible—the cerebral centers which preside over these senses in health never having been in action. No true conception of sound can exist in one congenitally deaf, or of color in one totally blind from birth. Consequently no hallucination can be present.¹

¹ In the *Journal of Mental Science* for July, 1895, an interesting account is given of the hallucinations of a deaf paranoiac. The case reported by Dr. Cramer to the Psychiatric Association at Berlin is, in brief, as follows: He was 37 years old and had been born deaf; but had been educated and learned to be a portrait-painter. When admitted to the asylum at Eberswalde he was much excited and violent. "He was very suspicious, not at all communicative, and very difficult to handle. In about ten months he began to improve and engaged in outdoor work. A year afterward he again resumed his painting and was willing to converse. Dr. Cramer framed a number of questions which the deaf man answered in writing. Instead of hallucinations of hearing, for he could not hear, he imagined that communications were made to him by the ordinary signs used by the dumb, and through the words which he had been taught to utter by muscular

Hallucinations and illusions give rise to *Delusions*. Hallucinations may be present in the mind of one not insane. As long as they are corrected by the reasoning and judgment they do not amount to delusions. Believed in, however, and present because of a diseased condition, they become delusions.

A *Delusion*, therefore, is a *false belief due to disease*. The qualification "due to disease" is introduced because there are multitudes of false beliefs in the world not due to disease, but to faulty education, as the beliefs in witchcraft, satanic possession, the evil eye, the visitation of ghosts, the so-called "Christian science,"¹ etc. In estimating the importance of a false belief as bearing upon the mental state of the subject, it is necessary to take into consideration his natural

exercises of the mouth and throat, and also by studying the motions of the lips in others. In these ways he thought that obscure ideas were introduced to his mind. Cramer took occasion to observe that it was an error to believe that in all our thinking heard words are used. In this he is convinced that there are great differences, some even transacting thought through the acoustic form of words, others through the revival of images formed from the movements of the organs of speech or the sensation of accomplished muscular efforts."

¹ ———, Ill., February 23.—Mrs. ——— ——— died here a few days ago after a brief illness of inflammation of the bowels. She and her husband and other members of the family were Christian scientists. An attempt was made to cure Mrs. ——— ——— by prayer and other practices usually resorted to by members of that faith before summoning a regular physician. The physician was called too late to be able to render any assistance. It is thought by the neighbors and friends of the deceased that the woman could have been saved if medical aid had been summoned sooner.—*Press Report*.

habits of thought, his previous education and mode of life. A philosopher suddenly expressing a belief in witches might be justly regarded as having an insane delusion. It would not be safe to conclude, however, in the case of an illiterate Southern negro, that an expression of belief in witchcraft implied insanity.¹

A venerable priest ministering to the necessities of the members of a fast-disappearing tribe of Indians, on the lower St. Lawrence, told me of unique methods formerly in vogue among them for overcoming the evil spirit "Wendigo" supposed to possess the body of one insane and eat out the souls of others. It was the aim of the Indians to lose in the woods or otherwise dispose of one afflicted with a mental infirmity. On one occasion the priest heard by chance of a puerperal woman suffering from mania. Approaching her cabin about which many "braves" were standing, he heard the words "the curé is coming." The reason for the warning was soon apparent. Inside the cabin he discovered the Indian woman bound to a chair placed back up and in a sloping position. Round her neck was a cord which extended through a chink in the rear wall of the cabin. At the other end of this cord there

¹ A young woman named Lynch, a light-skinned negress, who resides in a cottage in the suburbs of Washington, is causing a stir hereabouts, for she is suspected of being a witch. The charge comes directly from Hannah Johnson, another negress, who claims the Lynch woman cast a spell upon her, stealing her sight. The only direct evidence is merely circumstantial. The Johnson woman suddenly has gone blind. She blames the light-skinned negress for her misfortune and has preferred charges of witchcraft, which the superstitious negroes of the community are commencing to believe.—*Detroit Free Press*, April 20, 1913.

had been relays of Indians, who made it taut from time to time. The priest extricated the squaw from her perilous position, soothed and cared for her. Not long after, however, with the characteristic perversity of one partially appreciating the reason for the attention her neighbors had bestowed and to the end defiant, she exclaimed: "Now I will eat your hearts out."

The same expression from two different sources may be, in the one instance the result of ignorance or viciousness, in the other due to a delusion. Thus, the denunciation of religious orders by a blatant anarchist might be disregarded as having no bearing, necessarily, on his mental condition, while allegations of misdoing in such orders coming from one identified with and theretofore sentimentally interested in them might furnish excellent ground for the suspicion that his mental operations were disturbed. For example, while it is by no means beyond belief that a bishop may be corrupt and licentious and because of these failings tolerant of the transgressions of priests in his diocese, or that the sister superior in charge of a hospital may be addicted to drink or the use of opium, it would be extraordinary if these charges were publicly made by a priest against his bishop, his brother priests, and the head of a nursing order; and while freedom of speech is an inborn right of the American citizen, it is difficult to believe that one brought up under the rigid discipline of the priesthood could in his sober senses refer to ecclesiasticism as "akin to diabolism." Such expressions from such a source would be strongly indicative of departure from the normal standard of thinking, feeling, and acting. At the same time I have known physicians who, carried away by the logic, the

apparent sincerity, the beautiful diction, and the continuity of narrative, have failed to discover anything insane in allegations like these, and have ignored glaring inconsistencies in a story because of the forceful language in which it was told.

In cases of manic-depressive insanity of the recurrent type, the physician's services are oftenest in demand during the excited period. The conduct of the patient is mischievous and trying. He seems actuated by the spirit of evil, and goes out of his way to make trouble for his relatives and neighbors. He places wrong construction upon innocent conduct and remarks, he carries tales from one to another, and embellishes them with satanic ingenuity, just keeping within the bounds of possible truth. Egotism, self-sufficiency, and intolerance are displayed in language and lineament, but such patients are so clever that it is often impossible to extract definite delusions in ordinary conversation. Here there is also danger of being deceived by externals. The patient makes all sorts of reasonable explanations of erratic and insane conduct, he alleges cruelty and abuse as causes for outbursts of ill-feeling or resentment. He claims there is conspiracy to deprive him of his property. Toward his relatives, to whom he ascribes unworthy motives, he displays a subtle ingenuity in making trouble. With the medical examiner he conceals, evades, and covers up, and in court he may possibly conduct his own case to the witnesses' very great discomfiture. In the condition of depression, however, he is remorseful for incidents of excitement, and is introspective and self-depreciatory.

Different degrees of disturbance of reasoning and

judgment may occur, dependent upon the form of mental disease encountered. The existence of delusions implies morbid reasoning and judgment. Delusions may have their origin in false perceptions and the attempts to explain painful or pleasurable sensations. Reasoning in mental disease is not always illogical. It may be fairly correct and from false premises as in paranoia, or be entirely correct concerning everything apart from the individual as in the depressed form of manic-depressive insanity. Reasoning and judgment are disturbed in delirious and maniacal states, and are slowly impaired and lost in the dementias, particularly those of organic form.

IDEATION is slow in depression, in the dementias, in different forms of organic brain disease, and in the later stages of alcoholism and opium intoxication. It is quickened in the early stages of opium taking, alcoholic intoxication, and in all forms of maniacal excitement. In acute maniacal states it is often so very much quickened that incoherence results; this is due to the rapid change of concepts and the hurried speech necessary to their expression. In manic-depressive (recurrent) type during the excited period it may be unduly active.

The MEMORY may be at fault, both in the recollection of percepts and in the registration of organic sensations, as heretofore mentioned in connection with the personality.

The memory is confused or may be temporarily obliterated in maniacal states, may be undisturbed in those of depression, is lively in paranoia, and impaired and finally abolished in various forms of organic brain disease and in the senile insanities. The existence of

serious memory defect is always to be viewed with alarm. In dementia from senile causes, as is well known, there may be fairly accurate memory for remote events, but none for those of recent occurrence.

The EMOTIONS—feelings—may be at fault. As previously mentioned, disturbance of the emotions is an early manifestation of mental disease in many of its forms.

In the graver forms of insanity, associated with nervous degeneration, the HIGHER REFLEXES (the co-ordination) are disturbed.

VOLITION, which in conditions of sanity is checked and governed by the judgment, may be abolished or very much impaired. Examples: The irregular muscular movements, shifting glance, and inattentiveness in maniacal excitement; the unwillingness to put forth muscular effort in morbid depression.

The natural expression of volition depends upon *attention* and *free association of concepts*.

1. *Inattentiveness, Incoherence, Flight of Ideas, Verbigeration, Stereotypy.*

The ability to concentrate attention is impaired to a greater or less extent in all forms of mental disease. In those in which the dominating emotional note is acutely painful, the lack of ability arises from the feeling that nothing is worth while, from quickly oncoming fatigue, from preoccupation with what is going on within, from agitation over distressing concepts. In other states of depression with emotional reduction, it is due to apathy, dullness, or indifference. In delirium, in maniacal states, and in those conditions where pronounced confusion exists attentiveness may be but momentary and inability to concentrate due to the

interplay of disordered and unrelated concepts, any incidental auditory, visual, or tactile impression calling faintly into being some concept, which immediately finds expression in speech. The sound of the final syllable of, or some determining word of, a sentence suggests another related by association, this in turn another, and so on to chaos in expression (incoherence), or concept association calls forth entire sentences of longer or shorter length, distantly related, but without close dependence and leading nowhither (flight of ideas). Or the presence of words of similar sound determines repetition again and again of some sentence or fragment of a sentence, or meaningless rhyme. When having to do with word repetition, this is called *verbigeration*.¹

A similar symptom, *stereotypy*,¹ may also display itself in the motor sphere of speech, and elsewhere, as in rigidity of certain groups of muscles, purposeless movements of a rhythmical character, peculiar attitudes in walking, and resistance to the natural tendencies of muscular expression. In paranoia and certain paranoid states inattentiveness may arise from the feeling on the part of the individual of the superiority of his own outgivings to those of other people and impatience in listening to what he regards unimportant and inconsequential.

¹ I am aware that these terms have been employed in a less restricted signification, but it seems more logical to me to limit the application of *verbigeration* to the repetition of the same word or of words of similar sound; *stereotypy*, to sentence repetition and to muscular movements of the same character made again and again without variation.

Seven minutes of ten.

I hear that voice.

I hear that voice.

I hear that voice.

I hear that voice.

Take nurse from hall.

Take nurse from hall.

Take nurse from hall.

Take nurse from hall.

My mother is safe

My mother is safe

My mother is safe

My mother is safe

Some one out side.

Some one out side.

Some one out side.

Some one out side.

I am in pain

She will not go

I am in pain

She will not go

I am in pain

She will not go

I am in pain

She will not go

I am in pain

She will not go

I am in pain

She will not go

I am in pain

She will not go

I am in pain

She will not go

I am in pain

She will not go

I am in pain

She will not go

We are all God's children. Please—please tell to
come over right away. Please please please please.

Illustrations of stereotypy.

2. *Pressure of Activity, Retardation, Opposition, Negativism.*

Natural response to impressions from without will necessarily be altered or impaired more or less in correspondence with the degree in which fixation of attention is possible. In certain cases reflex is slow and a considerable interval elapses between interrogatory and reply, or suggestion and response. This symptom is known as *retardation* and is usually, perhaps invariably, encountered in the depressed periods of manic-depressive insanity. In other cases response may be sudden and intense and moved by impressions from without, the *pressure of activity* from within; also a symptom of manic-depressive insanity (the excited phase) may be augmented.

Response to suggestion to dress or disrobe, to rise or retire, to take food or receive treatment, may fail through fear of poison or personal injury, through sluggishness of the mental reflexes (*retardation*), through preoccupation with delusions or bizarre concepts, or through resistance to the will of others and definite determination upon a contrary course. It is important to *differentiate the opposition* to taking food or receiving care displayed by a patient fearful of injury (a manic-depressive case, for example) *from the so-called negativism*—a characteristic symptom of dementia præcox—in which the patient not only opposes, but performs acts directly contrary to those suggested. Attempts to insert his arm in the sleeve of his coat are met by persistent tugging at the free end of the sleeve; to remove the coat, by his tightly holding the two sides together. Asked to lie upon the right side, he turns to the left; given an enema, he forcibly re-

strains its operation until apart from the conveniences of the toilet room, or, indeed, ensconced in bed. He voluntarily refrains from emptying the bladder. There is predilection for the beds, clothing, and furnishings belonging to his neighbors and antagonism toward that provided for his own use.

In closing this chapter, it seems desirable to emphasize the fact that, although ideation, reasoning, judgment, memory, volition, and emotional control, any or all, may be impaired in insanity, it by no means follows that *insight* into the condition is invariably lacking on the part of the patient. Certain cases of manic-depressive insanity are conscious of the existence of unwonted exaltation and respond to some extent to suggestion to hold morbid impulses in check. Not infrequently appreciating the oncoming of lack of self-control, they avail themselves of opportunities offered for hospital or sanitarium care. In depressed periods there is often exaggerated appreciation of the condition and much self-disparagement because of the consciousness of ineptitude and worthlessness. Presenile and involutional cases entertain lively fears of "going insane," meaning by this that the patient anticipates his present mental disability will go over into complete lack of consciousness of his surroundings and absence of self-control. Admission of the fact of insane conduct during a previous attack is often in evidence although the patient may deny present disorder in thinking or acting. I have known a dementia præcox patient during a semilucid period to aver he had "always been insane." In two cases of advanced paretic dementia there was lively recognition on the part of the afflicted individuals of the hopelessness of

outlook and, in one of these, persistent suicidal determination because of the gloomy view. Insight is rare, however, in the latter class of cases, is notably absent in true paranoia, and can rarely be determined where there is marked deterioration in intellect, as in advanced cases of dementia præcox.

PART II.

SYMBOLISM IN SANITY AND IN INSANITY.

THINKING is conducted for the most part, if not wholly, in words or in their visible signs, visible signs standing for individual words or comprising whole sentences, as, for example, the shrug of the shoulders in dubiety or deprecation, movements of the head in negation or affirmation, and the muscular expressions used as means of communication by the dumb. The trend of thinking and expression is with great frequency determined through ocular percepts, and the realm of object symbolism is far more extensive than the individual is aware until he turns attention directly to the subject.

From every object visually examined springs a concept more or less perfectly defined, or an emotion directly related to its physical properties, its correspondences, its uses, its origin, or its value, as well as many an indirectly related concept which its form, its purpose, its resemblances, bring into being. Every object in nature is in a poetic sense endowed with the instincts, capacities, and sentiments of the human family, and the terms descriptive of regional and special anatomy, or physiological and psychological processes, are transferred to inanimate objects. The oak suggests sturdiness, ruggedness, and strength of character. It has *limbs*, *trunk*, and *heart*. A fellow-

citizen of rugged character, dependability, and strength of purpose is said to possess a *heart of oak*. Spring foliage represents inexperience (verdancy); brown and yellow, decay (the sear and yellow leaf). Stone is a symbol of hardness, and there are correspondingly *hearts of flint*. The ascent of a river and the exploration of a cave are begun from the *mouth*. The volcano *vomits* forth its lava stream, and the earth *clothes* itself in a green garment. There is the family tree derived from the symbol of trunk (progenitor), offshoots and branches (near and remote relatives). One goes to the *root* of a subject, even as the tap root penetrates deeply the soil. The position "up a tree" is embarrassing and difficult, as many a cat has discovered.

The hills are a symbol of hopefulness and sustenance. "I will lift up mine eyes unto the hills from whence cometh my help." The sea is represented by Schiller as *laughing* and *inviting to the bath*, and in its tempestuous moments it distinctly says to a not unduly imaginative friend of mine "I am coming to get you." Every region has its *twin* lakes; there are in the Yellowstone Park *Teton* Mountains; America has its *backbone*; Michigan has its *thumb*; Italy, its *toe* and *heel*. There are the *lap* and *bosom* and *womb* of nature as well as the *bowels* of the earth, the *nose* of the ship, the *face* of the cliff, the *brow* of the hill. In Scripture imagery the deserts shall *rejoice* and the wind is endowed with volition. It "bloweth where it listeth." There is resurrection of truth crushed to earth. The automobile engine shows *distress* and "charity suffereth long and is kind," the attribute in the latter instance standing for the individual whose

breasts overflowing with the *milk of human kindness* is its highly endowed possessor. Nature lovers and probably not a few fakers harken to the *call of the wilds* in vacation time, provided the *pinch of poverty* does not detain them at home. One may experience the *touch* of nature or that of defilement, be *touched* by suffering, and *touched* in his exchequer through a wild-cat enterprise. Wealth may come to all except the physician by *leaps and bounds*. An onion has its *skin*, likewise the banana, and peeling either is significant to the sensualist. The candidate for a degree gives *head and body* to his thesis and the pugilist *puts a head* on some portion of his antagonist's body. There are the *head* of the church, the *head* of the procession, the *head* of the lake, and a long, heavy train drawn by two locomotives is designated a *double-header*. There are the *neck* of land; the *eye* single to that which is good, the *jaws* of an instrument, the *chest* of tools, the *lip* of scorn, the *finger* of destiny. Little pitchers have *ears*, the sea *arms*, the waves a *voice*, the mountain a *foot*, a comet *head and tail*, the potato *eyes*. Plumbers use *male* and *female* fittings, *nipples* and *elbows* in their vocation. Human sympathy has *breadth*, affection *depth*, folly *height*. A character is spoken of as *well rounded*; sarcasm, as *pointed*. Duty *calls*, happiness *rains*, the stone has a *face*, and the elements on occasions display *anger*. Dispositions are *sweet* and *sour*; certain forms of jesting leave a *bitter* taste. One *scents* trouble. One does not require a sleeping car to negotiate the distance between Paradise Valley and Devil's Lake, and need not ordinarily waste trolley fare in a trip from poverty flats to nob hill. It would not be necessary to delve

deeply for the origin of the expression "they do not hit it off together" used in the politest conversation as concerning two antipathetic individuals. Certain characters are designated as *flabby* and certain heads as *soft*. The sun *rules* by day, the moon and stars by night, and the moon *governs* the tides.

The May pole is said to be a survival of phallic adoration. One is understood to be a good swordsman if his weapon of offense is adjusted to more than one sheath, and different fur-bearing animals symbolize sexual parts. The older members of the profession will recall the imaginative expression "nest hiding" as mentioned in a notorious ecclesiastical trial of many years ago. A sound and meritorious bill may be *emasculated* in committee and the *virility* lost from a *burning* question by ineffective discussion. We are interested in *living* issues and attend obsequies of the *dead* past. There is the *rock* of faith to which the *sandy* or *gritty* (courageous) soul may cling until his *sands run out*, his position preventing even the small legacy of a "footprint in the sands of time."

One *discountenances* a wrong by making a wry face. There is an injunction to *purge* your conscience of *dead* works. One in contempt of court may be *purged* of this contempt if satisfactory explanation is forthcoming. In death the silver cord (spinal) is loosed, the golden bowl (skull and contents) is broken, the pitcher (heart) is broken at the fountain, and the wheel (kidneys) at the cistern.

There are native and foreign *tongues*, the *tongue* of land, and *tongues* of fire that lap up the inflammable. A likeness may be *speaking*. There are the *flood* of criticism, the *brown* study, the *breath* of suspicion.

A certain white fur is the symbol of purity, because of the dainty habits of the ermine; the stork symbolizes piety and thankfulness; acacia, cypress, and cedar durability (immortality), for their qualities of resistance to the ravages of decay and insects. The palm suggests triumph, because of its elasticity and power of resistance. Tears are pearls ("Perlen bedeuten Thränen").

Events never happened thirty-nine or forty-five years ago, but to the reminiscent invariably occurred forty years ago. It would be interesting to discover how far the assignment of this number was determined by Scriptural incidents, the forty days and nights' deluge, the forty years in the wilderness, the fast of forty days. Was the expression "three times and out" determined by the crow of the cock accompanying Peter's denial of Christ, and is the notorious partiality for the use of the number three occasioned by the period of Christ's interment before the resurrection, and by the Trinity concept? One can hardly escape looking for the third accident or misadventure in the presence of two preceding. The tragic incidents succeeding the last supper prevent the meticulous housewife from seating thirteen at table.

To that portion of the anatomy upon which the body rests in sitting has been vulgarly given the name of a domestic animal, a burden bearer. The subtle association connected with this word was the cause of much trepidation on the part of a minister of my acquaintance. He felt himself constantly in danger in reading the tenth commandment of conveying to his auditors the injunction not to covet his neighbor's "Ax nor his oss." Once, indeed, the mistake was made, as

under the bewildering conditions was inevitable. Another friend avoided, where possible, pronouncing the name of a certain outdoor game because of an impolite substitution for the true name, implanted in his boyish mind many years before.

The plant and animal kingdoms furnish numerous examples of symbolism. There is a Trinity (three organs) represented by the clematis. The poppy signifies the immature product of conception. Reference to the menstrual flow is made by the use of the word flowers. Apples constitute a well-known symbol for the breasts, which are also known as bobbies or brothers. Owing to the fact that they furnish the germinal principle, the name for a fruit of the tree is applied vulgarly to the contents of the scrotal sac. Because of the shape and covering of certain roots and fruits their names have been transferred to the principal organ of generation in the male. Eggs suggest the fundamental facts of life-continuance.

Colors are *lively* and *gay* or *somber*. White is emblematic of chastity, green of verdancy or jealousy (the green-eyed monster), red of brightness and optimism, and gray of the reverse of these. Red also stands for anarchy. Yellow has come to be identified with mental debility (jaundice, cachexia, and that which is undesirable, the yellow journal). Brown symbolizes certain bodily parts and functions. There is Scriptural authority for "though thy sins be as scarlet." Blue is the tint of emotional depression; cardinal and purple point to authority, ecclesiastical or regal.

The Klang association, that of words of the same sound as pronounced, but of different signification, is

the occasion of much embarrassment and inconvenience to the susceptible. Take, for example, through the word "bear," the suggestion of a burden physical or mental, parturition, a wild animal, and, because of sound association through "bare," that of nudity. The word "ball" suggests the national game, the tango, a bearing in a wheel, its unrelated "bawl," the cry of an infant, and milk of magnesia. The word "grip" suggests a fraternal order, friendship, poverty, disease, and death. The right and left associations are, as everybody knows, among the most common, the left implying the negative, neglected, and insincere; the right, the positive, straightforward, and dependable. Such associations as those above mentioned are universal. They insistently obtrude themselves into thinking like Banquo's ghost at the table of Macbeth. In health they are for the most part ignored and are the source of no particular discomfort. In mental disease, on the contrary, they become the bases for distressing word obsession.

Dementia præcox, the paranoid, hysteric, and hysteroidal states furnish the best examples of such obsession. A suppressed sexual experience in early life, the complex of the Freud school, not rarely supplies the groundwork for painful, provoking, and persistent mental hammering and determines morbid conduct in pronounced degree. Indecisions, negativism, and mutism may owe their origin to a subtle something below the plane of conscious acting, and irritability and verbal castigation of other people are in certain cases interpretable as self-censure for previous transgressions. Emotions inspired by the imperfect revelation to the patient of a mental cesspool give rise to

religious doubts and misgivings and to the delusion of loss of soul. "Salt" with which one was obsessed referred to this article used on the finger-tips for the purpose of titillation of the sexual organs. Another once spoke irritably of an instrument of porcelain used on her mother. The mother proved to be herself and the instrument of porcelain her own finger inserted into the vagina. The symbol of the serpent is as old as mythology. A black snake mentioned by one referred to the person of a brunette male acquaintance. The delusion of fatherhood in an unmarried virgin had its origin in playful contact with another little girl in childhood. Poppies and the fig-leaf are mentioned by those whose thoughts frequently revert to the sexual apparatus. Green pastures symbolize to one that which is fed upon as well as that which produces. The "corner of Pine Street and Broadway" was translated as indicating first sexual pining, second the "broad way" which leadeth to destruction, or in her language "where any old thing might happen." The color green affronted one patient because of the intimation of lack of worldly wisdom. A command to lift the curtain meant to uncover the figure. "Woman" suggested women. One was obsessed by the colloquial term for breasts. It came to her over and over and evidently originated from the self-scrutiny of vanity or from the less-comfortable emotion of chagrin because of anatomical imperfections. The word "banana" was by one divided into Anna and Nana and the false implication followed that Nantucket (took it). The obsession of the word "basket" was determined by the contents of a work basket amongst which was a darning ball, the handle of which had been used within the vagina.

A skirt hanging on a banister conveyed an invitation to go up (stairs). Blackberries may be avoided because seedy; spoons upon the table are looked upon as a reflection. The word "Jackson" encountered in reading calls out the irritable assertion that there was never any Jack or any son. Reds and browns symbolize the pelvic organs and certain bodily functions; green, the apron of Adam and Eve. It is a safe color because of the experiences in the Garden of Eden. Prunes suggest prudery. (Prunes and Prisms.)

Certain drawings and art productions of the insane display occult associations of symbolic significance. Question of a patient. Isn't that a beautiful head? Ans. Yes. Q. From what did you copy it? Ans. The temptation of St. Anthony. Q. What does the clover-like drawing signify? A. The Trinity. Q. Anything else? A. I don't know, trailing arbutus, hepatica. It has fuzz on the stem. Q. Of what is it all symbolic? A. Nothing. Oh, that dreadful symbolism. Q. What does the particular drawing signify? A. An ellipse, a something to be desired. (At the same time making a tracing.) Q. In its entirety it is a sexual symbol, is it not? A. I don't know—very likely—perhaps it was—*they were there together*. (St. Anthony and the temptress?)

One wrote: "The feathery clematis is to me as the fluffy winter girl. To study you what a trinity each branch, each terminus, holds to me, plumed seed, a thought, an emblem of Free Masonry." The fluffiness referred to a peculiarity of the clematis blossom; trinity, to the three-branch division of the blossom; feathery and plumed, to the chapeau of a Knight Templar in whom she had been interested.

Maeterlinck's Jocelyn suggested to one The Copley Society, Copley in turn calling up "Home, family." It goes way back to Genesis: "Be fruitful and multiply."

The obsession "pig, pig," was determined in the case of one by the recollection of an erotic relation between herself and a summer boarder of the opposite sex. They had been sufficiently intimate for him to permit himself to name her breasts and he had placed his hand on different parts of her body. Once he appeared before a company carrying a young pig. With the subsidence of the sexual interest this symbolized in her mind that which is dirty and fleshly.

A patient was insulted because mention was made to her of the theater opening night and because a man friend had invited her to visit the monkey house at the zoo. The color red was extremely objectionable to one patient because of some occult association. This could never be definitely brought to light, but it is conjectured it has to do with the menstrual flow, and to childish impressions thereto related. Another had a prejudice against trees, because they suggested the woods from which she felt she must emerge. The figure of an owl perched in the middle of an oval belt buckle symbolized to the artist "wisdom in eugenics" or scientific, intelligently directed, perhaps artificial impregnation.

It is not difficult to understand in the light of all this how morbid thinking is promoted through fleeting impressions obtained from without, through touch, taste, hearing, sight, and smell. What is read is misconstrued and given personal application. Attitudes are misunderstood; the meaning of words is perverted,

and there is distortion of the most commonplace experiences of everyday life.

If it is possible to uncover the complex from which a word obsession originates it is often extremely helpful to the patient to do this. Brought to light, its importance may be minimized, its in most cases utter insignificance emphasized. Many are greatly relieved to know that they are not alone in harboring symbols of an erotic and questionable character, and that in underlying motives, reactions to environment and response to the incidents of earlier years, there is much that all the world has in common and recalls with chagrin; but that to attempt to suppress recollection is futile, and to indulge in self-castigation utterly inexpedient.

PART III.

INSANITY.

INSANITY is defined as "*a prolonged departure from the individual's normal standard of thinking, feeling, and acting.*"¹

It is a *prolonged* departure, because there are many conditions in which there are temporary departures from the normal standard of thinking, feeling, and acting which are not called insanity. Thus, in intoxication one neither thinks, feels, nor acts as when sober, but this is not accounted an insane condition, and the subject is fully responsible in the eyes of the law for his conduct. It is true of shock, a blow on the head, fright, an epileptic convulsion, fainting (from loss of blood or heart-failure), and apoplexy, that there may be temporary loss of consciousness and the mind does not act naturally; but the person thus suffering is not regarded insane. Insanity may develop in consequence of injury, in consequence of the loss of blood, and in consequence of apoplexy or epilepsy; but the insane condition is here secondary and due to accompany-

¹ All definitions of insanity must be more or less arbitrary, inadequate, and open to objection, but this, the simplest one with which I am familiar, designates tolerably well those conditions of mental aberration with which alienists have chiefly to deal, and will for working purposes ordinarily be found sufficient.

ing change in nutrition of the brain or damage to its structure.¹

The definition speaks of the *individual's* normal standard. This means that every case is a law unto itself: that there is no fixed standard of thinking, feeling, and acting. It cannot be said, for example, because one does not act under certain conditions as his neighbor acts, because he does not show the same amount of feeling that his neighbor manifests, or because he does not think in the same lines that his neighbor thinks, that he is insane and the other sane. In giving an opinion as to whether insanity exists, it is necessary to compare the person's *present* with his *former* habits of thinking, feeling, and acting.

The "*departure*" may display itself in complete change of characteristics, tastes, and tendencies: in simple perversions of the feelings and judgments; or in an exaggeration of natural traits of character.

Causes of Insanity.

These are as numerous as the causes of disease in general. They may be classified, for convenience, approximately as follows:—

Direct physical causes, 36 per cent.

Indirect physical and emotional causes, 8 per cent.

Vicious habits, 25 per cent.

Constitutional and evolutionary causes, 28 per cent.

1. *Direct Physical Causes.*—These are such as affect mental operations through direct action upon the brain: a blow on the head; injury; hemorrhage; disease of

¹ The word "insanity" means literally "unsoundness," but it is the medical, not the literal, meaning which is here given.

any kind, as cancer, consumption, Bright's disease; childbearing and its attendant perils; prolonged nursing, etc. In each of these there is a direct action upon the brain, either from violence, through increase or diminution of its blood-supply, through deleterious substances carried in the blood, or through altered nervous sensations going from the part affected to the brain.

2. *Indirect Physical and Emotional Causes.*—Under this head are grouped: fright; shock (not shock from surgical operation or bodily injury, but from sudden terrific strain upon the emotions); grief; care and anxiety; business failure; trouble of various kinds; domestic infelicity; disappointed affections; the feigning of insanity; companionship with those who are morbid; imitation. Causes such as these affect the brain indirectly through the physical system. For example, the man who has failed in business, loses sleep; he does not take the proper amount of exercise, perhaps through fear of meeting acquaintances and having his troubles brought vividly before his mind; his appetite is impaired—he takes food indifferently or refuses it altogether. He has actual distaste for food—this because his changed habits of life have brought about disorder with the emunctories of the system—the bowels, kidneys, skin, and lungs. What food he takes is imperfectly digested and badly assimilated. The blood-supply to the brain is insufficient and impoverished in quality. Sleep is troubled by painful dreams, it does not rest him, and the process of repair which constantly goes on in the brain during sleep in the normal state is not carried on naturally during the period of emotional strain. Eventually, through all

these causes, he loses his ability to think, to feel, to act naturally; and there comes to be a prolonged departure from his normal standard in these respects, constituting insanity.

3. *Vicious Habits*.—Under this head are classed: intemperance; opium, chloral, and cocaine addiction; sexual excess; self-abuse; and all habits of life which directly undermine the physical constitution and thus affect the brain.¹

4. *Constitutional and Evolutional Causes*.—Under this head come all causes of insanity which operate because of some innate defect in constitution or development of the individual. Here hereditary tendency figures to a great extent. One inherits a susceptibility, so called, to mental disease from intemperate, vicious, insane, or delicate ancestors. His nervous constitution is unequal to the task of carrying him through certain inevitable crises in development. There is known hereditary tendency to mental diseases, either remote or immediate, in about 50 per cent. of all cases under treatment in large institutions. Probably if the facts were invariably discoverable, the percentage would be found vastly greater.

Among the constitutional and evolutional causes are

Pubescence.—The pubescent period is that during which the boy or girl passes to manhood or womanhood. At this period the organs of reproduction take on development and a change in characteristics and personality occurs. Certain desires, aspirations, and tendencies not before felt are then first experienced.

¹ It will be observed that vicious habits are, after all, but direct causes; but for convenience and clearness they are separately considered.

It is a critical time in the life of the individual, and unless he or she is well organized, mental overthrow is apt to occur. One of the forms of manic-depressive insanity (the recurrent) frequently develops at this stage of life. The age at which pubescence is established varies in different climates. For this climate it is approximately from 13 to 15 years.

Adolescence.—Possibly the individual may have passed safely the pubescent period, having inherited sufficient nervous strength to carry him beyond this first physiological crisis, but at the next developmental period (that of adolescence) he breaks down, without direct assignable cause, or from some cause which would be insufficient to produce insanity in one well constituted. The adolescent period comes at the age of 25 to 35.

Again: The mile-stones Pubescence and Adolescence may be left behind in the march of development, and the person go on mentally well until the change of life,—the so-known *Climacteric Period*. This change in the woman takes place at the age of about 45; in the man, between 50 and 60. It marks in both a stationary plane. The period of development is past, and those organs which took on activity at the time of the pubescent epoch begin to cease active functioning.

About fifteen years later—in the woman of 60 and the man of 70—*Senile* changes (those due to old age)¹ make their appearance, and mental and bodily feebleness ensues. Frequently mental enfeeblement reaches such an extreme that insanity is said to exist.

¹ Every person has his limitations and possibilities, and earlier senility may occur if one's nervous and mental energy has not been conserved and if the output has been excessive.

We have thus the four periods: *Pubescence*, marking the advance from youth to manhood; *Adolescence*, that from manhood to maturity (these two periods are developmental or evolutionary); *Climacteric*, the stationary period; and *Senile*, the dissolutional period, or period of decay.

Causes of insanity may be conveniently grouped under one of the four heads above mentioned. In every case the natural constitution of the subject figures to a greater or less extent. It is true of the direct and indirect physical causes, as well as of vicious habits, that a cause feeble in its intensity may produce a disturbance of balance in one not well organized, whereas one having a good nervous inheritance and strong mental equipment may be able to resist the cause and retain his integrity of mind.

Forms of Insanity.

There is no such thing, strictly speaking, as a disease of the mind; but the expression is commonly employed, and is a convenient one for describing disturbances of those operations of the brain which involve consciousness. Mental disease is always associated with disturbance of function or structure of the brain. Among the pathological conditions are congestions, effusions, anæmia (lack of blood-supply), opacities of the membranes, thinning of the gray matter, adhesions of the membranes to the cortex of the brain, and degeneration of brain matter.

The names commonly employed in the classification of mental disease chiefly stand for groups of *symptoms*: *Mania* being a Greek word, meaning furor;

Dementia being derived from two Latin words: *de*, without, and *mens*, the mind; *Paranoia*, from Greek words *para*, defective, and *nous*, understanding. One notable exception is in the name *Melancholia*, which comes from two Greek words meaning "black bile," it being supposed by the ancients that this affection was incident to disorder of the liver.

The classification of insanity and the study of insane conditions have undergone modifications almost revolutionary in very recent years. The former division of insane conditions into *States of Mental Elation*, *States of Mental Depression*, and *Structural Brain Disease with Prominent Mental Manifestations*, is generally regarded as inadequate for clinical study. The so-called states of mental elation and states of mental depression are now considered under the head of manic-depressive insanity, the terms mania, hypomania, delirious mania, etc., being employed to indicate the symptoms in existence during the excited periods; "depressive states" and "apathetic states" being used to designate the condition in depressed periods heretofore described as melancholia, and the term melancholia limited in its application to mental depression occurring in the senile or presenile period of life. Terminal dementia and dementia following acute forms heretofore designated as chronic dementia, dementia after mania, and dementia after melancholia are no longer admitted as entities in classification, those cases of insanity heretofore studied under the latter heads being relegated to other groups. This reformation in classification has been due to the recognition of a state underlying the morbid nervous processes of which so-called mania, melancholia and

dementia are the expression, namely, the neuropathic organization. Under the old classification embarrassment was frequently encountered in clinical study because of the mixed manifestations in the so-called acute forms of disease, the maniacal patient being rarely consistently maniacal and showing an exalted state of the emotions, the depressed patient displaying from time to time fluctuations in the emotional states to an extent incompatible with the grouping of symptoms under states of emotional depression. Further, the so-called recurrent mania (*folie circulaire*) presented the picture of alternating states of elation and depression with or without intervals of lucidity, the pendulum at one time swinging over to lowered emotional tone, then to the other extreme. These clinical facts led to the study of the manic-depressive insanities under the one head, and the essential unity of so-called mania and melancholia is now generally recognized. Simultaneously with the disappearance of these forms of disease as clinical entities, there was brought forth a name under which is included certain conditions of psychical degeneration displaying by turns the symptoms of mania and melancholia, of stupor and of dementia. Its existence is regarded as marking psychical degeneration from the beginning. It is the so-called dementia præcox. As in the preceding edition of this book, an attempt will be made to present the essentials of the classification of Kraepelin so far as seems expedient, the psychological analysis of symptoms heretofore found useful for purposes of study being retained as far as possible. For obvious reasons it is impracticable in an elementary book of this character to consider fully the pathological groundwork of insane conditions.

Infection Psychoses.¹

Under the infection psychoses are included the delirium of fever, the delirium directly due to infection, and the morbid mental states following fever. These conditions are attributable to the immediate or remote effects of the toxins or poisons of infectious diseases.

The phenomena of FEVER DELIRIUM are familiar. Coincidentally with the occurrence of fever there are developed flightiness of conduct, dream states, hallucinations, wandering speech, and increased sensitiveness to touch, to sound, and to sight, depending upon the grade of fever and the nervous constitution of the individual. Certain children invariably display delirium in the progress of any febrile disorder. Indeed, in some, illness, however slight, is accompanied by head symptoms. The simple digestive derangements, the eruptive diseases, and the cutting of teeth are attended by temperature and delirium.

The grade of delirium as a rule corresponds to the degree of temperature, to the activity of the poison which gives rise to the fever, to the rapidity of tissue change, to the extent to which the circulation is disturbed, and to the previous habits of the individual, particularly as to alcoholic indulgence. In the severe grades the movements of the patient are purposeless, there are complete incoherence and unconsciousness of surroundings. There may be obliteration of perception and consciousness, with apparent wakefulness

¹ Psychosis (plural, psychoses) signifies any form of mental derangement, more particularly where there is no discernible pathological condition in the brain to account for the departures from the normal.

and staring eyes, the so-called coma vigil. Incontinence of urine and lack of control of the bowels are present. The delirium may subside with the fever and consciousness become clear, or the morbid impressions developed during delirium may continue after its subsidence.

Delirium accompanying pneumonia has in my experience led to the unwise removal of a patient from her home to a hospital for the insane. This disease occurring in an habitual drinker is prone to give rise to hallucinatory impressions colored largely as are those of pure alcoholic delirium.

States of profound hebetude and torpor attend upon certain forms of influenza. There are emotional depression, dullness, and indisposition to exertion, and, after the subsidence of fever, enduring lassitude, perhaps going over into neurasthenia. In one instance, indeed, epilepsy owed its origin in a previously vigorous man to an attack of la grippe.

The delirium of typhoid fever is not, as a rule, of an active character. Muttering, picking at the bed-clothes, tremulous movements, startings, and twitchings are present, but no pronounced muscular activity. Occasionally, however, intense hallucinatory or illusional impressions and the fear of injury impel the feeble patient to rise from bed, cause him to make determined resistance to his nurses, and lead to death from precipitation from the window or stairway.

In INFECTION DELIRIUM, that is to say, that form directly due to the septic poison of the disease, there is no definite relation to temperature. There are delusions of persecution, the emotions are depressed, and visual and auditory hallucinations occur. Confusion

of ideas, and extreme restlessness and incoherence are present in some cases. Diefendorf (Kraepelin) says that in small-pox during the formation of pustules between the eruption and pus fever, there is a characteristic mental disturbance which seems due to infection. The grade of delirium of typhoid fever varies according to the severity of the physical symptoms. That it is not the prolonged temperature alone that determines the delirious state, but actual damage done to the brain by the circulation in the blood of a poisonous principle, is considered probable because of the frequent apparently causative relation of the typhoid to subsequent and often permanent mental impairment (*dementia præcox*).

Facial erysipelas is frequently accompanied by delirium. Rheumatism, endocarditis, and chorea, all related diseases, may be attended with grave confusional and hallucinatory manifestations. Delirium occurs in hydrophobia and terminates in fatal collapse.

In POST-FEBRILE conditions there are often ineptitude, lethargy, incapacity for concentrating the attention, delusions, and indifference. The germ of insanity may find itself in the delirium developed during the progress of fever, or the mental disturbance may come on after the subsidence of temperature. Patients become irritable and depressed, hallucinations are occasionally in evidence, and in some cases delusions of distrust and persecution appear. Dangerous impulses may be present. In the most severe cases, delusions of persecution are well marked. There is complete incoherence, the speech is confused, suspiciousness is present, and there are delusions of unseen agency and poison.

Hystero-maniacal and manic-depressive states, attended with strong antipathies toward relatives and those in the immediate care of the patient, occasionally develop in consequence of some of the fevers, notably the rheumatic. Fevers may also be the starting point or determining cause of a subsequent dementia præcox. The physical state is undermined by the rheumatic condition, and the cardiac and other evils attendant upon it. The young patient in consequence of the condition of invalidism is indulged and the will-power and self-control remain undeveloped. Patients grow impulsive, irritable, fretful, inconsiderate, and are subject to emotional storms.

Under the head Post-febrile Infection Psychoses, a SIMPLE NEURITIS has been described, the characteristics of which are feeble memory, failure of attention, and a disposition to fabricate. The symptoms may be differentiated from those of paretic dementia by the absence of pupillary phenomena, disturbance of speech, and other motor indications of the latter disease.

Treatment.—The treatment of febrile delirium and infection delirium should be largely directed to the physical symptoms. Elimination by the skin, by the kidneys, and by the bowels should be favored. The high flushing of the bowels is especially valuable. The ice-cap to the head, cool sponging to reduce temperature, and the use of remedies, strychnine, caffeine, and quinine, to support the heart's action, are valuable. In cases where it is impossible to induce the patient to take sufficient liquid nourishment by the mouth, recourse should be had to rectal alimentation—the giving of nutritive enemata, of water or of the normal salt solution, by the bowel. In all delirious conditions it is

necessary that the patient be given watchful attention owing to the danger of self-injury. Mechanical restraint, as with the rest sheet, is sometimes indispensable.

The treatment of the post-febrile psychoses may involve rest in bed for a considerable period of time. Attention should be directed to building up the general health. Where neuritis is an element in the psychosis, treatment should be directed to that condition. Patients with well-marked delusions of suspicion in respect to their environment will be more likely to improve under hospital conditions than at home. In cases where suspiciousness is so strong as to create delusions of poison, tube-feeding may be necessary. A tonic medicinal regimen is indicated.

Exhaustion Psychoses.

Under this head are grouped insanities due to extreme nervous reduction. They are of sudden onset and pursue a rapid course to recovery, or terminate in chronic states of nervous exhaustion. The exciting causes are childbirth, prolonged lactation, excessive mental strain and shock, intense care and anxiety, fractures, particularly where there is the complication of precedent alcoholic over-indulgence.

COLLAPSE DELIRIUM.—Collapse delirium develops rapidly after a condition of sleeplessness. There are confusion of thought, restlessness, and excitement. There are incoherency and delusions of persecution and unseen agency. Threatening voices are heard which impel the patient to impulsive acts, to jump from bed, to run about the room, and perhaps to precipitate herself from the window.

A young woman, the mother of two children, both living, whose health was good until marriage, broke down five years thereafter. There were delusions of apprehension and various auditory hallucinations of a painful character. A certain degree of mental and considerable physical betterment followed the removal of degenerated ovaries. She had fears that she was to be killed, and that her family and property were in danger. She refused food, omitted to empty the bladder, feared poison. There was negativism. Once after a hard struggle vainly made to catheterize, she turned to the nurse and said: "Now you may pass the catheter." She did sudden acts of violence, but had periods of self-control during which she conversed pleasantly on the subject of music. After the visit of a consulting physician whom she had not before seen she expressed the delusion that he had hypnotized her. This case furnished an excellent example of stereotypy in expression. She repeated over and over identical sentences and was constantly influenced by vivid hallucinations of hearing that her property had been stolen. Improvement occurred, then relapse, followed by physical prostration, complete refusal of food, regurgitation of that given by the tube, and profound confusion. Later both mental and physical betterment appeared, but the leading mental symptoms, remaining in evidence, indicate that the original collapse delirium was the initial period of a dementia præcox.

Another patient suffering from collapse delirium also displayed stereotypy, repeating over and over "Tom — here's your wife." In this form of disease there may be eroticism, extreme untidiness, and exposure of person. Such patients resist attention. The duration of collapse delirium is usually short and the first mental illumination appears suddenly. Convalescence, once established, may go on rapidly or slowly in proportion to the amount of reduction the physical forces have sustained. The prognosis is favorable if the patient can be safeguarded from injury due to impulsive acts.

ACUTE CONFUSIONAL INSANITY.—This condition is of sudden origin following exhaustive illness. There may be periods of unconsciousness preceded and followed by insomnia. Delusions of fear are present. The patient believes himself persecuted by those of other religious sects, impugns motives, asserts that his property is to be destroyed. Intermittent delusions of an exalted character may also be present. The patient is restless and, although weak and more or less helpless, is apt to be up and about. He fancies that others are trying to work some scheme to obtain money, has hallucinations of sight, mistakes figures in the carpet for animals. Other hallucinations of the special senses may be present. There is disturbance of the temperature sense. One patient that I knew believed that snow was falling in his room. There are extreme mental confusion and a tendency to impulsive and violent acts. There are variations in the emotional sphere, pleasurable concepts alternating with those of a depressing character. There are apt to be deranged secretion, foul breath, and slight elevation of temperature. Suicidal attempts in frenzied states are not rare.

A woman of rather frail physique, a farmer's wife and extremely industrious, who in a married life of fifteen years had given birth to four children, became suddenly depressed one month after the last confinement. This took place hurriedly and delivery was instrumental, but, as in previous instances, unattended by any untoward event or accident. She took part as spectator in a revival meeting, but was not apparently much impressed and said she could make nothing out of it. Later, however, she began to talk of different faults, that she had not told the truth, that she had been dishonest in not looking up the owner of fifteen cents found as many years before. She took food sparingly and the milk supply ceased. She was indifferent to the removal of her baby to

the house of a neighbor. She grew resistive, declined to wash her hands, would not permit attention from others. There were brief attacks of excitement, during which she ran from her room. She thought the devil in pursuit and expressed disbelief in God; became impressed with the delusion that her surroundings were filthy, talked but little, and this in whining, plaintive tone. There was great mental retardation. She omitted to empty the bladder except on suggestion from her husband, feared robbery, was repetitious; asked again and again if this is her room, what that picture is, where her husband is, what it all means, but did not heed replies. She believed herself improperly bathed, that the toilet room was unfit to use, that food served was not such as furnished to others. She was terrified when taken from her room for any reason and startled by noises, as of a distant engine whistle.

Treatment.—In the treatment of the acute, exhaustive psychoses, elimination should be favored, the skin, bowels, and kidneys being kept active. Rest in bed is imperative and forced alimentation may be necessary. Owing to the extreme excitement in some cases, tube-feeding may be from time to time demanded. Cool sponging and the alcohol rub are valuable. The prolonged bath of from fifteen to twenty minutes' duration in water at a temperature of about 100° is serviceable in some cases where there is no resistance to this form of treatment. During the bath cold cloths should be applied to the head. Rest in bed with the ice-cap to the head is of value in some cases. Medicines to sustain the heart's action, either hypodermically or by the mouth, are useful. In giving medicine hypodermically, care should be taken that the patient's delusions are not intensified by this method of administration. Where hypnotics are necessary, veronal or sulfonal in 5- to 10- grain doses may be employed. If chloral is used, strychnine or quinine should be administered

with it to obviate its depressing effects. In order to prevent further exhaustion and collapse and to permit the application of cold to the head, the rest sheet may be required. If possible, however, restraint should be avoided.

CHRONIC NERVOUS EXHAUSTION (NEURASTHENIA).—This condition follows shock, excessive mental application, prolonged mental strain, great anxiety, and sexual excess. In connection with the above causes there may be the additional factor of indulgence in alcohol taken with the idea of temporary relief from depression.

The individual is conscious of inability to carry on his work as before. There is headache, particularly at the vertex and occiput. Pain at the vertex is described as "pressure"; that at the back of the neck and occiput as "drawing," and one feels an instinctive desire to sustain the head with the hands. A vise-like constriction of the head is sometimes complained of. One breaking down with neurasthenia neglects his business little by little. He procrastinates and shuns active effort, finds it difficult to maintain his former relations to society, and by degrees drops out of it. He suffers from pain in the back and legs, talks of sexual incapacity, is sexually weak, is constipated, and is fatigued by exertion. He finds himself in a clammy perspiration after the slightest expenditure of force, is hypochondriacal, is bent upon talking about his symptoms, and does this in season and out of season. He imagines the kidneys do not act properly, that the blood is stagnant, and that the functions of different organs are inhibited or lost. Frequently there is complaint of great exhaustion after a movement of the bowels. There are local anæsthe-

sias, or painful points at the distribution of the superficial nerves. Patients become extremely sensitive; they lie in bed, demand unremitting attention, cannot brook the slightest noise about the house, insist upon closely drawn curtains, and cover the eyes to exclude light.

They complain of lack of appetite, restrict themselves to the lightest possible diet, develop foolish fads in eating, and imagine they must place dependence upon so-called "health foods." They complain of digestive symptoms, particularly of pain in the stomach, and gaseous eructations. They suffer from insomnia and demand medicine for the relief of this condition. The faculty of voluntary attention is impaired. There is occasionally the unfounded fear of syphilitic infection. Unless carefully safeguarded they are apt to become confirmed drug takers. There is a disposition to key up with alcohol or narcotics, which disposition, yielded to, aggravates the depression for which the stimulant was taken. All symptoms are most distressing in the early morning hours. Patients develop contractures and muscular atrophy from disuse of the extremities. One under my care several years ago had been bedridden or confined to an invalid chair for twenty-five years. Her knees were contracted and the muscles of the thighs and legs almost completely atrophied from disuse. She was supposed to be the victim of spinal disease and had become, in consequence of neuralgic pains, a morphine habitué. The task of lifting this patient from despondency and re-establishing self-confidence was very great, but was accomplished in due time. In neurasthenia the tendon reflexes are invariably exaggerated.

Diagnosis.—Many cases of paretic dementia of the apathetic or depressed type have been early diagnosed as neurasthenia. Marked impairment or absence of memory with pupillary abnormalities (contracted pupils, unequal pupils, or pupils of the Argyll-Robertson type) constitute practically conclusive evidence of the former condition. The Wassermann reaction and spinal fluid examination discussed under the head of Paretic Dementia may be useful here for diagnostic purposes. An objection to this and to any surgical procedure lies in the danger of adding one more item to the patient's repertoire of disabilities.

Treatment.—The implication of the sympathetic nervous system in neurasthenic states is so pronounced in the symptomatology that to mention the one without immediate mental association with the physiology of the other is impossible. The vascular phenomena—contraction-dilatation, the fluctuations of pallor and flushing, the delayed digestion, the rectal pain, the dilatation of the intestines and diminished peristalsis, the epigastric discomfort, the sudden perspiring—all point to an extremely mobile state of this particular division of the nervous system. In its treatment ergot and small doses of atropine are indicated.

Change of environment is of the utmost value and the hospital or sanitarium régime ideally adapted. Rapid change of scene, as travel, is not often productive of good. A patient going about from place to place, consults one physician and another, and is confused and made more self-centered by conflicting opinions and differing medical prescriptions. The determination of the question of location should be made by others, and the carrying out of a wise plan of treat-

ment for a number of months should be enjoined and insisted upon. Medicines to build up the general health and directed to disease of the stomach and intestines should be employed. The bowels should be kept regular by the use of aperients and the colon flushing. Diastasic essence of pancreas is a useful remedy for the frequently attendant intestinal indigestion. Medicine directed to the excess or diminution of hydrochloric acid in the stomach, the necessity for which may be determined by an analysis of the stomach contents, may be employed. Electric massage, mechanical vibration of the muscles, and the static breeze are of service, the latter particularly for its suggestive and soothing effect. Hydrotherapy, particularly the Russian bath and salt rub, followed by the cold spray to the spine and vigorous friction, are particularly valuable.

For the frequently attendant insomnia, a hot drink should be given at bedtime. If after a fair trial that proves insufficient, recourse may be had to veronal, sulfonal, or trional in small dose. The habit of dependence upon hypnotics is rapidly developed, however, and the danger of it should be conscientiously borne in mind. After all, as a matter of fact, depressing medicines are distinctly contraindicated in such cases and are detrimental if much employed. Such patients are susceptible to suggestion, and a confident manner of administration goes far to increase the efficacy of remedies.

A patient once declared that the medicine called "placebo" helped her the most of any. Given with assurance it will often be found useful in the sleeplessness of neurasthenia.

Intoxication Psychoses.

These may develop from any poisonous substance taken into the body, prominent among which are alcohol, opium and its preparations, cocaine, hemp, the ptomaines, and preparations of lead.

LEAD POISONING produces a train of symptoms like those of organic brain disease. There are the characteristic paralyses of lead with possible colic; there are tremors, pains in the limbs, incoherence of speech, confusional states, sometimes delusions of fear, and occasionally epileptiform convulsions. Inquiry into the habits of life and the occupation of the patient usually suffices to differentiate this condition from organic dementia. The treatment should be directed to the elimination of the poison of the presence of which the nervous symptoms are an expression.

ALCOHOLIC INTOXICATION.—The phenomena of acute alcoholic intoxication are so well known as to require no extended notice. However, given a condition of habitual inebriety and the erraticism incident thereto, it may be puzzling at times to decide at what period disturbance of thinking, feeling, and acting has reached the morbid degree, where responsibility leaves off and unaccountability for conduct begins. Varying with the natural disposition, there may be in simple intoxication exaltation or depression of emotional tone, belligerency, jealousy, periods of frenzy, stupor, depending upon the amount of intoxicants taken into the system.

DELIRIUM TREMENS.—Acute alcoholic delirium, or delirium tremens, is of sudden onset, though there is frequently an antecedent period of gastric derangement

with reduction in emotional tone, and impaired nutrition, due to the toxic effects of alcohol. The delirious condition arises in some cases during a prolonged drinking bout, in others after withdrawal of the habitual stimulant. Occasionally it develops as the immediate result of an injury. The susceptibility to delirium following fracture in subjects addicted to prolonged alcoholic indulgence is a matter of frequent observation. Following the period of insomnia, of derangement of the stomach and alimentary canal, loss of appetite, and restlessness, a condition of mental excitement appears. There are increased sensitiveness and irritability, fretfulness, and impatience. Rapidly a condition of confusion supervenes and this goes on to delirium, more or less grave and pronounced, depending upon the amount of intoxicant consumed and the susceptibility of the patient to its influence. Hallucinations of sight and hearing take place. Patients hear threatening noises and misconstrue ordinary conversation and current sounds. They are suspicious. They see rats, vermin, and creeping and crawling things, dogs, cats, horses, and things going 'round and 'round. They distort figures in the carpet and wall paper, pick at the bedding, and are by turns incoherent, dazed, frenzied, and completely disoriented. They are impulsive and violent, and are apt to exhaust their strength to the border of collapse by struggling with those about them. From time to time during the progress of delirium there is a half-conscious appreciation of the surroundings and the absurdity of morbid concepts, and the patient may be momentarily diverted, only to become lost again in vagaries and fantastic thoughts. Elevation of temperature and accelerated

pulse are commonly noticed. During frenzy, particularly if manual restraint has been necessary and struggling with the patient has been entailed, there are pallor of the surface, cold sweat, and indications of impending collapse. Refusal of food takes place because of loss of appetite and delusions of poison. Patients are sleepless.

Treatment.—Patients should, if possible, have hospital or sanitarium care where special arrangements are made to prevent self-injury, where necessary restraint may be employed and unnecessary coercion omitted. The room should be dark and quiet and noise minimized. There should be attention to elimination by the use of calomel and salines. Emptying of the lower bowel by enemata and of the colon by the high-flushing is of service. Patients should be induced to take as much liquid as possible to favor elimination by the kidneys and skin. Where liquids are not taken readily by the mouth they may be introduced at frequent intervals by the rectum. The patient should be kept perfectly quiet. The presence of a level-headed nurse is necessary. Talking to the patient, except occasionally to say a soothing or quieting word, should be omitted. The calm manner and assuring tone of voice may be of great service in suggesting to the patient the unreality of morbid impressions, but much conversation on any subject is to be deprecated. Tepid or cool sponging at frequent intervals is of service. The use of the ice-cap to the head and to the precordial region in case of great rapidity of the heart's action is of much value. In diet, malted milk, digestible cocoa, coffee, eggnog without liquor, blanc-mange, floating island, beef peptonoids, soups, and broths may be used.

Rectal alimentation is necessary in some cases where there is persistent refusal of food, and tube-feeding through the nose may be demanded. Medicinally, strychnine is the remedy of greatest value. From $\frac{1}{60}$ to $\frac{1}{30}$ grain of strychnine may be given hypodermically once in four or six hours according to the condition of the heart and the general symptoms. Tincture of capsicum is valuable as a regular prescription, and may be given in doses of 10 to 15 drops three or four times a day. Alcohol should be immediately withdrawn. Other remedies besides those alluded to, as kola, coca, quinine, the aromatic spirit of ammonia, may be given throughout waking hours and furnish an entirely satisfactory substitute for alcohol. The patient should be allowed as much latitude as possible consistent with the preservation of strength. In the intervals of cold applications to the head he may, to rest himself, be permitted to walk about the room. When heart failure is threatened, however, confinement to bed should be enjoined and mechanical restraint used if necessary to insure this. Of sleep-producing remedies, the best in these conditions, in my judgment, is chloral. It is rarely necessary to give more than two doses of the drug, 20 grains at each dose, three hours apart. It may be given in connection with the valerianate of ammonia, with quinine, or with strychnine, and the addition of one of the latter remedies where cardiac exhaustion threatens is desirable. In private practice in the treatment of these cases, chloral is a much-used and often-abused drug. Under home surroundings, the necessity for quieting the patient at any hazard leads to large and frequent doses of chloral combined with bromide of potassium. A state of confusion is

induced; there is serious reduction of the vital forces; elimination is checked and toxins are retained.

Other hypnotics, as veronal, sulfonal, and trional, may be used as necessary, and will be frequently found valuable. It may be expedient to give small doses of bromide of potassium, 10 to 15 grains, at intervals of four or five hours, where there is great nervous excitement, but this should be omitted otherwise. I am opposed to the use of morphine and codeine in these cases, although in some instances they may be required to quiet extreme nervous agitation. Paraldehyde is in many cases invaluable in the insomnia due to withdrawal of alcoholic stimulants. One patient whose whims were most difficult to meet spoke of the comfortable "glow" after its ingestion. It is, in fact, so very acceptable that the danger of establishing dependence upon it must be borne in mind. It may be prescribed in doses of 1 to 2 drams and, as a rule, one dose will suffice. To disguise its pungent taste the addition of gum acacia, oil of wintergreen, and syrup of wild cherry, after the formula of Shoemaker, is useful.

DIPSOMANIA.—In certain cases where there is strong hereditary instability, the disposition to drink to excess comes in waves or storms. There may be months of total abstinence or temperance, then of a sudden the unfortunate individual is engulfed in the whirlpool of indulgence. He leaves his business, however pressing and important it may be, goes to an unfrequented part of his city or to a distant point, and for days or weeks indulges the appetite to drink to the limit. Clearing up comes as suddenly. A tapering off process begins. There are needed a few doses of the bromides, two or

three séances at the Turkish bath, and the wreck of the week before, now rehabilitated, resumes his place at the desk or in the counting-room, clothed and in his right mind. The disease manifesting itself thus is called dipsomania, a term which is properly applied to this, and only this, form of alcoholic inebriety.

CHRONIC ALCOHOLISM is attended by progressive mental deterioration and by physical symptoms denoting change in the central nervous system. The pathological changes are those due to arteriosclerosis, meningitis, and cerebral atrophy. Progressive impairment of memory and attention occurs; there is failure of judgment and inability to carry on business in a satisfactory manner. The conversation is mixed and there is deterioration in personal habits. The moral ideals are lowered; there is an ignoring of conventions; from being careful in manner and speech one becomes coarse and unrefined, unreasoning prejudices are developed, and patients are at sixes and sevens with relatives. There are inconsistent complainings; patients believe themselves deprived of opportunities and attribute to others the lack of success which the vicious indulgence has brought about. Natural affection disappears.

ALCOHOLIC DELUSIONAL INSANITY.—A step further in the degenerative process and there are well-marked delusions. With patients who are married the idea of infidelity on the part of the wife or husband is frequently present. The basis for this is often sexual repugnance, on the one side, or inadequacy on the other. There is extreme irritability. Persecutory delusions are present. Hallucinations of hearing are frequent; the patient hears voices threatening him, accusing him of crime, and his wife of infidelity. At this

stage there is frequently a strong prejudice against alcohol in any form. I have often known patients in debilitated condition for whom an eggnog or light alcoholic stimulant was prepared, to refuse it absolutely. There seems to develop a distaste for the habitual stimulant. There may or may not be tremor and indications of muscular weakness.

ALCOHOLIC PSEUDO-PARESIS.—In certain cases of chronic alcoholism there develop symptoms simulating those of organic brain disease. There are present fine muscular tremor, ataxia, muscular atrophy, uncertainty in gait, defective speech, frequent headaches, vertigo, exaggeration of tendon reflexes, loss of memory, and epileptiform attacks. The gait is often peculiar; the patient walks with rapidity, but showing muscular inco-ordination, comes to sudden stops, then rushes on as before. He is unable to give himself satisfactory attention in dressing, the personal habits become untidy, there is fibrillary twitching of the tongue: the memory is feeble, the patient cannot find his room, he is unable to write, and if he undertakes this the result is a sorry scrawl. There is at times a tendency to extreme somnolence. The reflexes are often exaggerated to that extent that muscular contraction takes place throughout the entire extremity by tapping the patellar tendon. Along with the extreme muddling and mental confusion, there are hallucinations of hearing. One patient heard girls making merry outside his window, another the noise of a sewing machine. There may be impressions of water running through the ceiling. Patients imagine their lives are threatened and hear pistol shots. The recollection of incidents during active excitement is much disturbed, and un-

founded prejudices arise against those having the care of the patient.

Alcoholic pseudo-paresis may be mistaken for true paretic dementia. In a marked case which came under my observation some years ago there were extravagant delusions, the pin-hole pupil, indistinctness in articulation, visceral delusions, and marked ataxia in gait and speech. Regis says that inequality of pupils is scarcely ever lacking in alcoholic pseudo-paresis. The pupillary aperture may be misshapen, the pupil dull and cloudy, and visual acuteness less. The ataxic symptoms rapidly clear up after active elimination, rest, and quiet. Bevan Lewis speaks of the motor disturbance in alcoholic pseudo-paresis as motor impotence, not inco-ordination. The earliest indication is a fine muscular tremor, implicating first the fingers and hand, gradually spreading to the arm, next involving the tongue, lips, and articulatory muscles generally, and lastly extending to the foot and leg. The occurrence of epileptiform seizures similar to those appearing in the progress of paretic dementia, complicates the diagnosis in a small number of cases. The seizures are in no respect different from those encountered in true paretic dementia. Occurring in connection with sluggish and unequal pupils, exaggerated tendon reflexes, ataxia, incoherent speech, untidiness in habits, hallucinations of hearing, extreme mental confusion, disorderliness of conduct, general obtunding of the mental faculties, and loss of control over the sphincters, as was the case in a patient who recovered, a correct diagnosis in the early stages of the malady may be impossible. In one case displaying this train of symptoms, the mental disturbance disappeared entirely during the

first month, and within three months the reflexes, theretofore greatly exaggerated, were normal, there was no evidence of ataxia, there were equal pupils and distinct articulation. The handwriting was good. Experience in this and other cases would seem to emphasize the importance of careful inquiry into etiology and sufficient observation of the case after withdrawal of the stimulant and complete rest to make sure of the diagnosis. Cases of this kind may progress with but slight involvement of pulse and temperature.

A. W. Hurd writes of differential diagnosis as follows: "The motor symptoms in paresis are generally more localized than in alcoholic dementia—the seats of election at first being more especially in the muscles of locomotion and articulation, while in alcoholism the tremor and trembling are more generally distributed; with the general tremor, real muscular weakness is more marked than in paresis. In the early period the trembling of the hands is more conspicuous than in paresis, while the inco-ordination is apt to be less. The interference with the muscles of articulation, while possibly present in both, is more pronounced in paresis, and the elision of syllables, the omission of syllables or letters, quite characteristic, but difficult to describe, is more pronounced—while in alcoholism the difficulty of articulation appears to be a more constant general tremor of the muscles, without the lapses and spasmodic pauses."

A positive Wassermann reaction and the findings from spinal fluid examination may serve to practically clear the diagnosis. (See page 125.)

Treatment.—Withdrawal of alcohol and a tonic non-alcoholic medicinal regimen are necessary. Strychnine

in small doses, three times a day, is a valuable tonic. When the rest is disturbed it may be promoted by taking some warm drink at bedtime. Especial attention should be paid to elimination. The patient should take large quantities of water. A nourishing diet should be prescribed. Hydrotherapy is of great importance. The steam bath, and subsequent salt glow and shower, are of value. Effort should be made to build up the general health by out-of-door exercise and indoor calisthenics. Games and other diversions are of much service.

ALCOHOLIC PARANOIA.—The delusional state in certain cases of alcoholic insanity may simulate paranoia. Women suffering from this disease believe themselves to be queens and persons of superior birth. There are delusions of suspicion and of conspiracy. The conversation is frequently indecent; the wife believes herself persecuted by her husband, who plans to have her killed in a runaway accident to obtain imaginary life insurance. The patient may feel much responsibility resting upon her and be impelled, as in a case of my own, to make bread and butter by opening and closing the window. There are extravagant fancies. Useless purchases are made; the dress is fantastic. One may write poetry and imagine herself an accomplished musician or authoress; that her treatment away from home is a sacrifice because of some understanding with another government. There are hallucinations of hearing, messages are conveyed through speaking-tubes, and communications sent out by turning the handles of water coolers. A symbolical significance is discovered in a picture, in the disposition of some article of furniture, or in table arrangements. One

patient who murdered his wife by striking her on the head with an axe committed the act because he read in lettuce, radishes, and onions served at one time on the table, "Let us re-disunion."

Treatment.—The general considerations pertaining to the treatment of chronic insanities apply to the care of these conditions.

ALCOHOLIC EPILEPSY.—Occasionally grave epileptiform attacks occur without the accompanying manifestations of ataxia mentioned under the head of Alcoholic Pseudo-paresis. Indeed, a sudden nervous explosion of this character may be the first warning received by the patient that his or her drinking is exceeding the bounds of moderation. A strikingly interesting incident of this kind was observed in the case of a woman patient of mature years. Seizures of an epileptoid character occurred after intervals of a week or fortnight. There was profound unconsciousness and injury was done to the head in a fall accompanying one of the attacks. This patient showed no sign of deterioration in intellect or in the motor sphere and made an excellent recovery consecutive upon the withdrawal of alcoholic stimulants and upbuilding the general health.

MORPHINE AND OPIUM ADDICTION.—*Causes:* I am by no means prepared to admit, after the treatment of morphine and opium addiction for many years, that the majority or more than a large percentage of cases are due to the injudicious prescription of the physician. While some develop because of the continuance of a physician's prescription (often without his knowledge) for an undue length of time, many originate from pure self-indulgence. It is true in all probability that mor-

phine is used too liberally in the treatment of neuralgic conditions. It is too frequently the first resort and one dose is followed by another and another until the patient is under the tyranny of the habit. Unfortunately, those to whom narcotic drugs are easily accessible, as physicians and pharmacists, who know perfectly well the dangers which menace one in the employment of drugs habitually, fall into the way of taking opium or some of its extractives in the place of some other form of stimulant. A physician after an arduous day's work finds it convenient to secure rest and repose by taking a small hypodermic injection. He has a feeling of indifference to its danger, is aware of the insidiousness of the drug and the horrors attendant upon its habitual use, but takes it with that confidence in employing the tools of his profession which familiarity breeds.

Uncomplicated cases of morphine addiction are rarer than formerly. In not a few instances cocaine is resorted to at the time the depressing effect of the first taken narcotic falls upon the patient. This complication adds to the difficulties in the way of treatment. On the contrary, one of the least difficult patients it has been my experience to treat had regularly taken stimulating drugs with the morphine. He had had every two hours or thereabouts 3 grains of acetanilid, 2 grains of citrated caffeine, 1 grain bicarbonate soda, $\frac{3}{8}$ grain morphine, $\frac{1}{100}$ grain nitroglycerin, 2 drops tincture digitalis, 2 drops tincture strophanthus, $\frac{1}{30}$ grain strychnine. In addition to this he had consumed on the day preceding my first interview with him, some 3 pints of whisky. It would seem from the rapidity with which this case responded to treatment that

the cardiac tonics had to some extent counteracted the depressing effects of the morphine. Another case which came under my observation was taking every four hours $\frac{1}{60}$ grain sulphate of strychnine; $1\frac{1}{2}$ grains each salol and charcoal; 6 grains subnitrate of bismuth; $\frac{1}{4}$ grain extract of nux vomica; also at intervals 12 grains of acetate of potash and 10 minims spirit of nitrous ether, paraldehyde (a small teaspoonful every hour), and of morphine 26 grains in twenty-four hours in divided doses. Such cases as these are exceptional, but, as heretofore remarked, uncomplicated morphine cases are less frequently observed than in former years.

The active life, great anxiety, push, work, and attendant sleeplessness necessitated by modern business methods are all factors in drug habituation. In states of nervous exhaustion there is recourse to alcoholics and to narcotic drugs for temporary relief. A chronic diarrhoea may have occasioned the first dose of laudanum, paregoric, or "Sun cholera mixture." A fruitful source of opium and morphine addiction is the presence of one mischievous person who is a confirmed habitué. I have known a whole neighborhood to be infected indirectly by a single individual of this character.

The amount of the drug consumed becomes progressively greater, and the system may become habituated to inordinately large quantities. From the smaller dose there is a feeling of temporary well-being. This gives place after a time to lassitude and apathy; another dose is required of a larger amount, and thus from day to day the quantity is increased, the patient meanwhile making fruitless attempts at reduction.

The characteristics of the chronic morphine habitué

are restlessness, emotionality, irritability, brightness alternating with dullness, gaiety with moodiness. There are ineptitude for business, incapacity for mental application, suspiciousness. Nausea is a common symptom; there are painful neuralgias, insomnia, disturbance of the heart's action and of the functions of the bowels and kidneys. The patient is unreliable and distrustful. He or she takes every means to secure the drug without the knowledge of family or friends, and becomes secretive and dishonest. It is difficult to obtain from one habituated to the use of morphine an accurate statement of the amount of the drug ingested in twenty-four hours.

Treatment.—Absolute rest and restraint are practically indispensable for the successful treatment of these cases. Separation from home and friends is essential, both that the patient may be prevented from indulging in the habit and to thwart the injudicious attentions of interested and over-indulgent relatives. There should be at first active elimination by the use of calomel, or calomel and podophyllin followed by salines. Nearly all, indeed all except a small fraction of the habitual dose of the drug, may be withdrawn at once. The patient should be put to bed and for a few days receive, at intervals of four or six hours, a small amount, say a quarter to half a grain of morphine in connection with strychnine, hypodermically. By the mouth there may be given quinine, strychnine, kola, coca, capsicum, and Jamaica dogwood as indicated. A small dose of one or other of these drugs frequently administered is comforting to the patient, and is useful in enabling him to bear the withdrawal of the more active stimulant. Let kola, coca, and valerianate of

ammonia be given at one time; strychnine $\frac{1}{60}$ two hours later; capsicum 10 to 20 minims in two hours; two hours later 2 grains of quinine; strychnine again in two hours; then return to the first prescription. The patient is interested; a measure of quiet is produced and the heart action supported. Strychnine and whatever small quantity of morphine or codeine is allowed may be given hypodermically; the other remedies, by the mouth or bowel, according to the condition of the alimentary canal. The important point is the short intervals of administration and the change from one drug help to another.

Within two or three days the amount of morphine may be diminished by one-half, and within a week the substitution of codeine may be made without serious disturbance of the heart's action. It is important to watch the latter condition and to regulate by it the administration of remedies. During the early days of treatment a hypnotic, in addition to a small amount of morphine, will be required. The one that is perhaps all round the most serviceable is veronal, but sulfonal, trional, medinal, and chloral are adapted. The average dose of veronal is about 10 grains. The patient should be kept in bed to sustain his strength. There should be warm sponge baths and massage of the extremities, particularly the lower extremities, to relieve the dull ache which is a constant accompaniment of the withdrawal of the drug. *It is important that the patient should not be taken into confidence as to the details of treatment.* He should be told that information as to what is given at any time until he is well cannot be communicated. This permits the substitution of innocuous hypodermic preparations at the time

the patient expects to receive the narcotic, and although he is perhaps not always deceived, the placebo is at times sufficient to comfort him. Within ten days all preparations of opium may be withdrawn absolutely. The other remedies may be dispensed with one by one, the intervals of their use made longer, the strychnine being continued in $\frac{1}{60}$ -grain doses four times a day. The diet during active treatment should be light and nourishing, care being taken that the stomach is not disordered by too free alimentation. Occasionally it is desirable to supplement mouth feeding by administration of foods by rectum. Convalescence is usually rapid after the narcotic drugs are withdrawn. The patient's appetite becomes good, he begins to pick up in flesh, and is able to take more and more exercise. As soon as the strength will permit, hydrotherapy, particularly the cold sponging and shower, should be made use of as a tonic to the nervous system. As a rule, it is desirable to keep such patients under treatment and away from opportunities for drug taking for at least six months—better for one year—and three months' treatment is the minimum time in which the system may be fortified to resist the morbid craving. Once out of the toils, it is the duty of the physician to give to such a patient an open letter addressed to any physician who may have his or her care in future, that there is susceptibility to morphine, and that it should not be employed except in dire emergency. It was formerly my custom to withdraw at once morphine and all preparations of opium and trust to the use of other drugs to overcome the resultant depression. In this form of treatment, however, there is always shock to the system, and sometimes dangerous cardiac compli-

cations. In my experience death has once occurred from the abrupt withdrawal. This course of treatment the patient insisted upon, and fearing that morphine would be administered without his knowledge, declined to take other medicines. In the majority of instances the rapid reduction of the drug and treatment as outlined above is free from dangerous symptoms, although during its progress there are invariably more or less distress, discomfort, and painful emotional expression.

COCAINE HABITUATION.—As a consequence of the cocaine habit a psychosis frequently develops. Distinct mental perturbation occurs and hallucinations and delusions of persecution are common. The leading features of the condition are similar to those of alcoholic delirium, but there is greater systemic depression. In my experience there have been few unmixed cases, most subjects of cocaine having resorted to the drug to key up from the secondary depressing effects of the alkaloids of opium. Uncomplicated cases of the habit have, for the most part, arisen from the use of snuff or nasal douches containing cocaine.

Treatment.—In cases where the cocaine habit is complicated with that of morphine, there is, as a rule, no difficulty in the withdrawal of the former drug at once, but the patient will require for many days watchful attention to prevent acts of violence and self-injury and to arrest any dangerous impulses which the resultant delirium may create. In uncomplicated cases it is wise to administer for a few days morphine or codeine in small doses hypodermically. To overcome the delirium the ice-cap to the head is desirable. Other principles of treatment are the same as those set forth under the treatment of morphine addiction.

Insanities from Disturbance of Function of the Thyroid Gland.

Two forms of diseases bearing distinct relation to disturbance of function (lack of glandular activity) in the thyroid gland are recognized. One is associated with myxœdema. In this psychosis there are apathy, dullness of intellect, a constantly dejected mien, occasionally delusions of fear; there are changes in the skin and mucous membranes and in the composition of the blood which accompany myxœdema.

Treatment.—The treatment of this condition consists in the administration of thyroid extract, tonics, and medicines to promote elimination and build up the general health.

CRETINISM.—Another form of disease associated with thyroid disturbance is cretinism, a disease of children, rare in this country, but common in Switzerland in the mountainous regions among the peasants leading narrow lives, and where there is much intermarrying among those nearly related. There is arrest of mental development amounting to a condition of imbecility. There is complete absence or degeneration (goitrous) of the thyroid gland, sometimes associated with dilatation of the cerebral ventricles. The condition is hopeless as regards cure, but observers have spoken of amelioration accompanying the continuous use of thyroid extract.

HYPOTHYROIDISM AND HYPERTHYROIDISM.—There has of recent years been considerable discussion of mental symptoms attributable to hypothyroidism (from diminished secretion) and hyperthyroidism (from excessive secretion) dependent upon disturbances of

function of the thyroid gland. Personally, I have been unable to differentiate these two conditions in their symptomatology. Both are attended by depression, anxiety, fears, apprehensiveness. The emotional disturbance is so profound as to readily pass over into a persecutory-delusional state. The physical sign on the one hand of thyroid diminution, on the other of enlargement, may be helpful in the diagnosis. Tachycardia is probably more frequent in hyperthyroidism. Both conditions are apt to occur at the climacteric period and the picture of the disease on the mental side to bear likeness to that of the presenile or involutional case. The occurrence of mental disturbance due to either condition is practically restricted to the female sex.

Treatment.—The treatment of these cases should be upbuilding in character, special attention being paid to any incidental debility of the heart. Thyroid extract is indicated in the hypothyroidism cases.

Dementia Præcox.

As the name implies, *the leading symptoms of this form of disease are due to an early reduction of brain force.* There appears to be necessary to its development a hereditary tendency or the neuropathic organization.

Under the head Dementia Præcox are included various cases described under the old-time classification as insanity of pubescence, insanity of masturbation, ovarian insanity, katatonia, stuporous melancholia. It is a disease of early life and a dementing process from the beginning. As school children, some

of these patients are bright and receptive, learn easily, are responsive, and show quick nervous reaction and impressionability. Others have difficulty in keeping up with their classes. While perception and memory are good, reasoning and judgment are not correspondingly developed. They are erratic and lacking in inhibitory control. They are subject to headache and, if pressed, frequently break down in school work. They are subject to attacks of dreamy abstraction and find it difficult to concentrate the attention. In some instances erraticism goes over by imperceptible degrees into pronounced mental perturbation. In others there is a sudden change from the habitual states of feeling and acting. This may appear coincident with the period when the boy becomes a man or the girl a woman. It may be that the determining cause is a fever, an injury, or some shock to the nervous system. Symptoms of acute depression or excitement occur, followed by a characteristic train of symptoms depending upon the form which the disease assumes and of which three classes of cases are recognized: the hebephrenic, the katatonic, and the paranoid.

The predominant mental manifestations in dementia præcox may be those of depression, of excitement, of stupor, or there may be alternating excitement and depression. It is not unusual to find the attack ushered in by feelings of vague gloom during which there are perversions of sentiment, a lack of interest in the affairs of life, disregard for the feelings of friends and family, and incapacity for mental application. A storm of excitement may succeed to this, and this condition in turn be followed by one of stupor. In excitement the patient is disorderly in conduct, erratic, boastful,

and extravagant in conversation. There are grandiloquent delusions and suspiciousness. Periods of apparent apathy occur during which the patient, if believing himself unobserved, is watchful, alert, and observant of what goes on about him. When noticed and questioned, he is silent and unresponsive.

Sudden and marked fluctuations in the emotional states occur and constitute to my mind a diagnostic feature of considerable importance. Depression is frequently of shallow depths and there is rapid shifting to exaltation. It is difficult to take seriously a state of depression such as was observed in one case, in which there were weeping, lamentation, fear of death, then of a sudden an exclamation "I want to die," followed by the repeated spelling of the words "d-i-e die d-y-e dye" and hysterical laughter. One may discount the expression of a patient who, mentioning the unpardonable sin and looking for death in consequence thereof, laughed, joked, and remarked if he had to go to hell he hoped to go with a smile on his face.

In the *hebephrenic form* the patient develops reserve, shyness, and depression, is easily embarrassed, shuns company, is deeply religious, devotes himself to Bible study, is fussy in dress, spends much time in the bathroom and over toilet operations, is addicted to self-abuse. Later he becomes bombastic, self-assertive, and egotistic. He manufactures universal money; is acquainted with astronomy. From one state the pendulum swings to the other. The patient falls to brooding, consults various physicians, reads quack advertisements, becomes concerned about his bodily states and the loss of virility. Delusions of a religious character develop. These may be of the nature of exaltation and

satisfaction with the spiritual state or may be self-accusatory. Passages in the Bible are read and accepted by the individual as directed to him personally. He may imagine himself a second Christ. Some patients believe themselves queens, Virgin Marys; unmarried women have the delusion that they have given birth to princes and kings. Occasionally the passage in Scripture in respect to the offending member is given a direct personal application, and acts of self-mutilation occur. One patient whom I knew destroyed her eyes by broken glass, following the Scriptural injunction, "If thine eye offend thee pluck it out and cast it from thee." Another cut his tongue because of the feeling that he said things that he ought not. Still another made numerous transverse gashes on his nose. Another removed the sexual organs, believing that their retention was inconsistent with a religious life. These patients are sensational in manner and conversation. They do sudden motiveless and impulsive acts, such as breaking windows or crockery, or throwing themselves into shallow water with apparent suicidal intention. One will remain on her knees indefinitely in prayer. With this hyper-religiosity there are frequently eroticism and sexual depravity. One may fancy herself engaged or married, and though devoid of personal attractiveness imagine herself sought after in society. Another believes that she is insulted in thought. One fancies she has a hypnotic influence over black-eyed persons, and imagines herself subjected to the sight of people in vulgar situations. A young and inexperienced girl may say and do shocking things because of the presence in mind of evil suggestion. She will express with the utmost frankness and

unconcern her own mental states and converse without shame of the sexual relation. The eroticism and egotism displayed in certain of these cases are indicated in the following leaf from a patient's autobiography:—

MY DIARY.

I am a cynic and I am only 19. So there must be something wrong somewhere. I was born a lady and of good social position, but whether I will stick to my traditions or not remains to be seen. I have had more experience than most girls of 25. I have been abroad, a year's travel and study in France with a French governess and in a French boarding school, and ten months' residence in Paris and almost three months' stay in Versailles. I have had four proposals and there are more coming, many. I do not flirt. I am a natural born egotist, cold, impulsive, fascinating (so every one tells me) to a dangerous (to me) degree—cynical, heartless (because I lost mine seven years ago and have never been able to regain it), indifferent to the woe I cause and perfect mistress of the situation always. That is the brief history of my life. I am on the threshold of my womanhood and hence the reason why I commence my diary.

Well I am in love to begin with and there isn't any chance of my falling out so far as I can see. He is my chum's Brother and his nick-name is —. What the rest is you'll never know. Well everything comes out in the wash. My mother didn't marry until she was 32 and to — who was a widower with a daughter. They both had pasts. Mama had fallen in love with a man whom she had loved for five years and then he married a widow with money. Father had married a — and she had gone the pace and eloped with a Jew and finally landed in an insane asylum. My sister — left home when she was 18 because of incompatibility and lack of money. We were paying for a home. Bien c'est mon tour maintenant, alors je partirai pour toujours mais en passant j'irai a — pour rester deux mois jusque a Noel.

The writings of other patients may be extremely incoherent, as witness the following:—

"Have just been to supper. Did not knowing what the woodchuck was sent me here. If it did I think I am pretty well prepared to prove the cause of it and I learned it while in P—— too Oh no, I had forgotten it was L—— that told me that first and by the way I heard some one say that the papers reported him dead and I afterwards heard it disputed. I will have to dispute myself again for it was the record books being carried through the room I was in that caused me to keep a record of the way I was being worked."

Another writes:—

July 26th Flint Mich

Dear Father

Received your letter yesterday It was very interesting I spend my time watching the squirrels. They skin the cat and do all sorts of funny things. Beth —— is here

Lovingly

The following productions from the pen of a woman in middle life, the subject of dementia præcox and in whose case there has been during a decade no appreciable progression toward mental impairment, are of more or less interest:—

MIRRORED THOUGHTS.

In days of Old.

Far over the hills of Alaska
Far over the hills of Spain
The sun sets the same as ours
and our habits are about the same.

We read and consider the climate
We read and consider the scenes
And wondering why God has planted
In the United States of America.

such magazines scenes
 Why destruction comes into our Country
 Why God has not made everything beautiful
 All Love Harmony Peace and Righteousness.

There will be no Lightening and Thunder
 No Cumbustibles used in the atmosphere
 There will be Harmonious Music
 Into the clouds and everywhere

In days of Old there was Noah
 We lived three years and ten
 I wonder why Doctors dont settle the climate
 and live it over again

KISS.

Odious act Nectars Kiss,
 Of the most perfect lips
 Natures shame
 To grace this world.

With such a heavenly pretty face
 Wildest nymph oh woodland elf
 Nature made thy own sweet self

BACHELOR LOVE.

Occasionally indulging
 In Light Havannas
 And chatting affably
 Refreshing Ideas
 Precision and Exactness
 Of a Bachelor

His mode of living
 His accomplishments
 His well organized Constitution
 His Bashful demeanor

The impediment of his love
It is reckoned as not durable
Is refreshed by a shower
And is extinct in an hour

An unmarried woman believes herself the mother of innumerable children conceived in the hypnotic state. There are superciliousness and inconsiderate conduct toward others. Various fears and obsessions occur, as that of infection, or loss of secretions through spots on the body. One applied tan shoe polish, banana skins, and apple parings to the surface to stop this loss. This patient answered questions by signs and gestures, opposed dressing, undressing, and exercise; would seclude himself. He assumed constrained attitudes, was apparently indifferent, but often smiled at amusing incidents. He had delusions of conspiracy.

Paroxysms of emotional disturbance occur, such as hysterical and inordinate laughter, squeezing the throat, making guttural noises. One patient addicted to these practices believed he was secretary to the devil and had clairvoyant power. One restricts herself to a certain kind of diet. One hears messages in the ticking of his watch and fears electrocution.

Auditory hallucinations are especially frequent. Replies to questions may be in the main rational, but there are interpolated during conversation wholly irrelevant sentences: Question. "Are you of German extraction?" A. "My ancestors were English and Swiss, I believe. I have been told by my Aunt Emma that such was the case. You see *she always had a nap in the afternoon*, but I might say that my father's name is English. The family is supposed to be of English descent. There is a little Swiss mixed up in

it. *When they came over everyone ate a cake of soap and survived.*" Q. "They didn't explode then like a geyser when they put a cake of soap in?" A. "No; they survived."

There was no indication of appreciation of flying the track in either instance, as to the nap in the afternoon or the cake of soap. The conversation was perfectly serious. A knowing air passed across his face when he spoke of the nap in the afternoon as though it was rather an important communication. There was indication of appreciation of the humorous side of the relation of the cake of soap and the geyser.

Obsessions of words which may be based upon sexual experiences in early life are tormenting and lead to irritability and impulsive acts of violence: and spiteful remarks addressed to other people are in some cases interpretable as expressions of self-censure. (See chapter on "Symbolism in Sanity and in Insanity.")

The second form, the *katatonic*, has much in common with the hebephrenic. The distinction between them is based largely upon the predominance in the katatonic form of stuporous states and of muscular rigidity, negativism (disposition to oppose and to deny), of verbigeration (the repeating over and over of words of the same or similar sound), of imitateness and automatism. The patient finds himself checked and impeded in various ways. With impulses to do, come counter-waves that check the exercise of the will. Patients resist attentions, such as washing and dressing, bathing, and the care of the person. They persistently oppose. One may wish to eat and come to the table fairly famished, but find himself

unable to carry the food to his mouth. One avoids a rug in which there is a slight fold and steps from bare spot to bare spot on the floor. During dressing, if anything unusual occurs, the garment is removed and the entire process recommenced. Patients may complain of feeling light-headed and of the baneful influence of certain other people. There may be the sensation of falling. One patient was distressed by the necessity for turning at street corners; another of my acquaintance invariably turned back one or more times after starting from any point, and was anxious to communicate her thoughts, but after a few words was deterred from further speaking. Disrobing operations begun at 8.30 were not completed until 11, and then the struggle came whether to retire or write letters. She fancied she had brought a curse upon the hospital.

One patient will stand for hours before the mirror, feeling of his muscles. Patients imitate the attitudes, gestures, and speech of others. With katatonic manifestations more pronounced there is increased apathy or stupor. The patient lies in bed, the head drawn, the limbs tense, the eyes closed, attempts to move him being met by muscular resistance; or he sits for hours in a constrained position, the head thrown back, saliva issuing from the mouth, and unmindful of the calls of nature. The functions of the bowels and bladder are occasionally arrested by voluntary action (negativism). Smearing of the face and body with filth is also encountered. This is regarded as arising from perverted sexuality.

The *paranoid* form also has much in common with the hebephrenic. The predominant note in these cases is of egotism and boastfulness. The patient believes

himself created for some special mission, to reform society, to promulgate new rules for dress and living. He may believe himself of royal birth and parentage. He affects carelessness in attire, shows indifference to the conventions, and advocates a return to the classic costumes of ancient times. One declines to take his meals with his family because of the feeling of superiority. Impulsive acts of violence occur and the patient may be dangerous if opposed. Strange acts of which the patient is unable to give any explanation are frequently indulged in. One whom I knew started out every morning early for a five or six mile walk through a populous portion of a city carrying an empty tomato can under his arm. Another caused much annoyance to the mail carrier by filling the letter-box with buttons and rubbish. There are delusions of personal prowess and power, in some cases with undue attention to athletics and the eating of enormous quantities of nitrogenous food with the idea of promoting physical development and fitting for the pugilistic arena. Patients believe themselves gifted authors or authoresses. One can build a town a mile high, can write scientific works in various languages, is to be a commissioned officer in the Queen's army, can kill himself with autosuggestion, thinks he can develop an additional sense.

One patient I knew remarked that although Paganini compelled the worship of music-loving people, he himself would not be satisfied with such an inglorious achievement. "That wouldn't please me—just to have worldly people worship at my feet," he said, and added: "Oh, no, what I desire is to master the violin sufficiently to make the Lord Almighty God kneel."

One of my patients conceived himself to be a second

Christ, and had delusions against the Masons and Roman Catholics. He was intensely suspicious and once committed an assault upon another who was whistling "Follow the Man from Cooks." (He was from Cook County, Ill.) This patient was subject to violent paroxysms of weeping over the deaths of eminent men.

Cases which, like the following, embody the principal symptoms of both the hebephrenic and paranoid form are difficult or impossible of differentiation:—

The patient was 26 years of age, single, of tuberculous ancestry. He had had typhoid fever two years before. He is described as always quiet and reserved; had never been about much with other people and had held himself aloof from those who were "common"—that is to say, he did not permit close contact, but had done church and settlement work among them where opportunities for patronizing and pseudo-philanthropy came into play; had had no successful continuous employment since leaving college, suffered from inflammation of the bile-duct and reached a melancholy state. He left college in the third year and came home much emaciated: could not retain a position more than four or five weeks; did not like the competition or strife of business; was vacillating and lacked persistence. Once he left a place of employment to attend to the wants of poor children. His head was filled with ideas of reform; there were vagrant impulses, he disappeared and was not heard of for a long time. When he returned he explained that he had been to see the country. He had remained much at home, having the feeling that there was no one besides himself able to care for his mother and his sister. With years he grew more and more peculiar and eventually reached the point that he did not know "what he was going to do next." He talked much of his ancestry and took occasion to write letters asserting the excellent family connection. He was delicate and showed exhaustion after slight exertion. He had been interested in psychical research. Of a sudden he developed the fancy that he should be more in company with women and had in view giving sexual atten-

tion to a housemaid. Once he rapped at her door and asked admission; being denied, he announced that he would come another day, and, true to promise, made a second call. In moral self-questioning about this episode, he consulted the minister. Later he announced to his mother: "You wanted me to do it"—and claimed that he had been influenced to the act by the minister and another person as well as herself. He had the idea that people communicated with him by signs or waves; that his mother's brother had influenced him; that detectives were on his trail, mistakenly for his good. There were extreme indecisions and he frequently spoke of being prevented from doing what he desired. When his brother told him he must go away from home for care, he grew excited and antagonistic; then of a sudden, as is frequently noted in these cases, his manner changed and he gave consent. Between that time and actual departure, he blew hot and cold on the subject. He averted the face in conversation, was confused and found it difficult to express his thoughts; was introspective and had misgivings; was undecided as to what he wanted to do and frequently changed his mind; had the impression that certain articles of food disagreed with him.

The following are extracts from his correspondence:—

"Just a word. When you were here I did not have a very good chance to talk with you. I have been leading such things as have been going on. In the first place, I am no friend of —. He has lost his prestige, his power in —, in fact he is a dead man. —, however, is a gentleman. The things I have gone through in the last month were enough to drive one insane and as a student of mankind, I believe they would revolt even you. His family, however, are all right. But the end is not yet. You see, I worked three years in the — with Cousin —, a man whom everyone respected and loved. — is bound to leave this world as — and he is doing all he can to promote the spirit. You see he thinks I have inherited the spirit of his brother and whether I will or not be as bound to turn into —. I made a great mistake in not taking Mr. Burr's advice and going to him,

telling him telling him Father is away just now and he is doubly active. I am followed by or watched by detectives whenever I am down town. He is a believer in bath houses."

"Just a word. When you were here, I did not have a very good chance to talk with you. I am not a friend of — who had but a few more months to live. He is a believer in family and that is what he is living for just now apparently. The reign of terror is over. — is a gentleman. Was sorry not to see your mother before she went to — as I wanted to help her in case there was anything she wanted down town. How is everything now—. I was sorry not to hear." —.

Discharged from Oak Grove, placed in another institution, thence discharged, he wrote as follows on March 15th:—

Dr. C. B. Burr,
Oak Grove Sanitarium,
Flint, Mich.

Dear Doctor Burr:—

I know that you are still taking some interest in me and I thank you for it. Were it not for the fact that my heart does not stay in the right place I am sure that I could be a gentleman in spirit. Some mornings my circulation goes down and my heart beats so feebly that the suffering is intense. Any exercise sends the pulse the wrong way.

I realize that my condition is not good yet I try to keep my mind on reading and other forms of mental exercise and I thank you for the help you have given me to do this. Respectfully yours —.

And as follows on March 22d:—

Dr. C. B. Burr,
Oak Grove Sanitarium,
Flint, Mich.

Dear Sir

Please forget me altogether. I get into a run down condition, feel your impulses and am weak enough to believe I can keep them — —.

Another writes as follows:—

June 15

1913.

My dear Dr. Burr:—

After the Red White and Blue I am weak and faint — and so — so exhausted — I can not get — my breath — please — wont you have — have — Dr. — send some thing to relieve me — also please ask him to call upon me — this afternoon when on this floor.

Very truly yours

I do not know.

Sunday X

Further writings of the same patient illustrate stereotypy:—

Please please please may I have Miss — for my special nurse? I am so frightened — tonight — or wont — wont you please — come — and give — me a hypo?

Freud has analyzed a most interesting case of dementia præcox showing the hysterical groundwork. Not a few cases present themselves which have at some period of their progress offered suggestions of hysteria. Indeed, the katatonic and less markedly stuporous states may mislead the observer into a diagnosis of this disorder. In any event, given hysterical phenomena in the early period of a suspected dementia præcox, a search for the complex¹ may be abundantly rewarded.

One believes that allusions to public characters in the daily press point to himself; that legislation is for his sole benefit; that theatrical performances are put on for his edification exclusively; that locomotive whistles

¹ See chapter on Hysteria.

call him, and that gestures of others are directed toward him.

Prognosis.—Certain cases, despite the designation of the disease, seem to recover. Others improve to an extent which is indicative of complete recovery. One in particular in my acquaintance so far recovered in appearance that he was pronounced sane by the courts, invested with the care of his property, which he turned over to the keeping of others, subsequently involving a long and expensive litigation. He relapsed in two or three months and has since been in an insane condition. In the vast majority of cases there is mental deterioration, either steadily progressing or slowly taking place, there being intervals of composure and relative discomfort.

Treatment.—General principles for the care of the chronic insane govern the treatment of cases of dementia præcox. The nutrition must be kept up by attention to elimination, tonics, and ample feeding. Owing to delusions, the disposition to oppose, and the inhibition which the disease places upon the conduct of the patient, there is occasional refusal of food to the extent that mechanical feeding is necessary. The bowels should be kept regular by laxatives as they can be administered, and by enemas. Owing to the fact that in certain katatonic cases there is voluntary retention of urine, especial care should be exercised that bladder distention does not proceed to a dangerous degree. The Russian bath and salt glow, the cold shower with subsequent friction, massage and passive exercise of joints which are habitually held by the patient in constrained positions, are all of value. The warm bath of several hours' duration has a calmative and beneficial effect

in periods of excitement. Exercise out of doors should be regularly given, although the disposition of the patient not to do may demand in some instances the exhibition of force. Whatever light employment he may be induced to take will be found of service.

Paralytic Dementia.

Synonyms: Paretic Dementia, General Paralysis of the Insane, General Paresis.

This is a disease displaying slowly increasing mental impairment, disorders of muscular movements, gastric and other nervous crises, disturbance of the higher reflexes (inco-ordination), and mental and physical decay. It is a disease of adult life and observed chiefly in those whose habits have been irregular, who have been addicted to excesses of various kinds, who have had syphilis, who have been steady drinkers, or who from one cause or another have exhausted their nervous force. Syphilis is believed by many to enter into the causation of at least 75 per cent. of cases, and there are those who regard it practically the exclusive cause. The disease attacks those of high-strung nervous organization, intellectual men, men of affairs, those accustomed to working at high pressure. It was scarcely known among women thirty-five years ago, but of late is more and more frequently encountered. It is a disease of middle life, but occasionally occurs in those advanced in years. It develops many years after syphilitic infection and was formerly supposed to be due to nutritional and toxic disturbances, the remote effect of the original infection. Recently the living spirochætæ of syphilis have been discovered in the brain matter. There is a juvenile type.

The disease is pathologically a meningo-encephalitis. There exist degeneration of the cortex of the brain and a low grade of inflammation of the cortex and membranes. Adhesion of the pia mater to the cortex is found post-mortem, and a roughened, worm-eaten appearance of the cortex results from attempts to separate the pia mater therefrom.

A patient breaking down with paretic dementia is at first visionary and erratic. He is full of pleasurable sensations, there is an early period of mental exaltation and marked change in emotional tone. While comfortable if left to follow his own devices, he is irritable if opposed. He has large ideas of business, entertains impracticable schemes, and perhaps loses the accumulations of a lifetime in unwise business ventures or unprofitable investments or dissipates them in extravagant purchases. He gives but indifferent thought to his business and is utterly unable to fix attention upon its details. He is careless, inconsiderate, and fails to keep business appointments. His handwriting becomes irregular and he drops words from sentences and letters from words. When executing the finer movements of the face and fingers he shows lack of precision. Hesitation and thickness of speech early occur, giving to those unaware of his breaking down an impression that he is drinking to excess. Disorders of the iris, inequality of the pupils, pin-hole or immobile pupils are present. There is frequently a lack of respect for the rights of property and appropriation of what comes within reach under the misapprehension that it belongs to the patient. The feelings are easily stirred, delusions develop and grow more and more extravagant as muscular inco-ordination and debility increase. The

patient believes himself possessed of thousands of millions; that he is the strongest man in the world; that he can set out worlds in the heavens; that he is the vicegerent of God, or God Himself; that train-load after train-load of diamonds are coming to him direct from the mines; that he owns all the banks and the finest houses and fleetest horses; that in order to fly all that is necessary is to make the first attempt. One patient whom I knew took position on the sill of a second-story window and was about to take flight when intercepted. Nothing can exceed the extravagant expression in these cases. I once heard a patient say that God had told him that in case of any difference of opinion between Himself and the patient, the latter should "have the say." Another made occasional excursions to the sun and put copper clamps about it.

Patients suffering from paresis are rarely irritable unless opposed or thwarted in their undertakings, but, inasmuch as interference with many of their projects is unescapable, friction is with difficulty avoided. They are altruistic, philanthropic, are universal in their sympathies, and cheerfully share their property with all with whom they come in contact. One having read a newspaper account of the loss on the part of Russell Sage of \$5,000,000, proposed to another to reimburse him with a check. "Oh, make it \$10,000,000," the second replied.

A friend told me of the delusions of John, a paretic patient who thought that he had died and that his soul had visited heaven and hades. Deeply imbued with many peculiar religious notions, he never lost an opportunity to attend chapel services and invariably sat in the front row of the congregation. One Sabbath,

when so placed, the officiating clergyman had selected as a text that portion of the Book of Revelations descriptive of heaven and the glories thereof. Suddenly, just as he was in the midst of a glowing portrayal of the jasper walls, pearly gates, and golden streets, up jumped John and at the very top of his voice bawled out: "You don't know a thing about it. I've been there myself."

A paretic in a Southern asylum, expecting to be elected President of the United States, was preparing his Cabinet and parceling out the different offices to his friends. A Georgia cracker was looking on intently as if present at some epoch-making gathering. Some one present asked the paretic patient if he would not give C. some important office. Whereupon he replied, "I will make him Minister to Russia." A look of astonishment spread over C.'s face and he exclaimed: "Good Lord, I can't preach in my own country yet!"

There is in many instances increased sexual excitement and the patient believes himself the progenitor of families of thousands. As time goes on the condition of the pupils becomes more uniform, either habitually unequal or contracted to the pinhole point. There is often a glassy appearance of the cornea. The pinhole pupil is more often encountered in cases of the neurasthenic or depressed type than in those where the emotional tone is one of exaltation. From bad to worse the patient's condition goes on, with occasional periods of remission. Seizures of an epileptiform or apoplectiform character occur. Epileptiform seizures may come in series or separately, and following them are transitory local paralyses. Apoplectiform seizures, as the word implies, are, as a rule, followed by paraly-

sis of one side of the body and face, which, due to local pressure from effusion into the brain, clears up more or less completely after a few days. Death may come suddenly from a severe seizure, but oftener follows as a result of slow exhaustion after a tedious period of confinement to bed during which bedsores, dependent upon lack of nutrition of the skin, develop. Arrest in the active progress of the disease, or remissions, may take place, and a deceptive appearance of permanent improvement may be present. While quiet, no longer entertaining delusions, and having the appearance of good general health, patients in remission show pronounced emotional instability and incapacity for business. Occasionally the improvement or remission seems to be determined by the existence of a large, sloughy bedsore. Attention is called to the handwriting of a patient in whom improvement occurred after an extensive slough. Toward the close of life the patient requires the same degree of attention as a little child, but so long as consciousness remains there is a feeling of strength and power. Anæsthesias, choking from paralysis of the throat, and paralysis of the bladder, which may result in overdistention and rupture, are symptoms encountered from time to time, and should be especially guarded against. There is often extreme friability of bones, and fractures occur from muscular action or trifling accident. Two patients whom I had under care fractured, one the femur, the other the tibia, through turning around suddenly. The movement was clumsily made in consequence of muscular inco-ordination and the bone snapped. In exalted cases the expression "first-rate" is frequently employed in reply to inquiries as to health, and has been called

1/2 way mcs
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The Hannibal and Joseph road is
 making contracts for live stock from
 Kansas city to Chicago at 40 per car when
 the tariff rate is 900.

June 22, 1881. In June an extensive and indolent slough
 appeared on heel.

The Chicago nine beat the Detroit
 club By 17000 Providence defeated Boston
 By 12000 and Buffalo laid out
 Cleveland By 5000

August 18, 1881.

Alvan B
 City of Saint Louis
 Michigan
 written left handed Oct 2nd 1881

the "verbal formula of a hopeless malady." Periods of furious and unreasoning excitement are apt to occur. In these, fortunately of brief duration as a rule, the patient loses all self-control, commits assaults, throws himself about, grates his teeth, and is noisy and extremely destructive. Injuries from falls are especially prone to produce hæmatoma auris (see page 194, Othematoma).

The above are the more frequent manifestations of paretic dementia. Occasionally, however, the symptoms are those of extreme depression, and then there is an intensity, an exaggeration, so to speak, of depression, which, taken in connection with the physical signs, assists the observer in differentiating the condition from the depressive insanities and from the disease with which it is more often confounded, neurasthenia. Change in the personality occurs, there is indisposition for exertion; painful sensations in the back and extremities are complained of and vasomotor disturbances are present. In paretic dementia of this type there may be absence of delusions apart from those referable to the bodily states. Delusions of unworthiness such as those observed in melancholia are not present, but there may be a feeling of so great ennui as to lead to suicidal determination and indeed suicidal attempts. Constipation and inactive liver are present. All sorts of hypochondriacal fancies based upon disturbances of organic sensation occur. There is pupillary contraction or inequality, and occasionally the pupil is of the Argyll-Robertson¹ type. "Think twice," says Berkley, "before contenting yourself with a diagnosis of neu-

¹ Showing accommodation to distance, but not to light.

raesthesia in a man or a woman who in middle life shows well-defined reflex pupillary disturbance. The prognosis is ominous." In parietic dementia of the melancholic quality there is outwardly less disturbance of the motor co-ordination, this owing to the fact that the patient's life is inactive and the symptoms of ataxia, always aggravated by fatigue, less in evidence. When the patient moves about it is usually in obedience to requests and with conscious exercise of co-ordination.

A case cited by Berkley forcibly illustrates the danger of mistaken diagnosis. Speaking of a patient in whom transient irascibility and a tendency to forgetfulness occurred, these symptoms followed by an emotional state and incomplete paralysis of the left internal rectus (for which cutting of the muscles was advised by an oculist), he says: "The course was now from bad to worse. The emotional state reached such a pitch that the patient became hypochondriacal, and was sent by his family physician to consult with a medical man of note. A diagnosis of 'neurasthenia' was made, and the patient was treated accordingly, only with the result that the progress downward became more and more rapid. In the spring of 1899 mental symptoms of a character to alarm his family supervened, and the case came to me for consultation. A diagnosis of dementia paralytica at about the beginning of the second stage was made, and the family were warned of the progress. A few days later the man became maniacal, attempted to kill several persons, and probably would have succeeded in doing so had not all deadly weapons been removed. I elicited a history of syphilitic infection ten years previously, and also of former excesses in alcohol."

Summing up, he pithily adds: "Here was an almost typical case of progressive paralysis, showing all the cardinal symptoms of the disease, yet at a time when treatment might have been of some avail it was not recognized. In fact, the procedures advised, far from benefiting the patient, were, if anything, calculated to do harm."

In depressed cases the diagnosis is often further complicated by a neuralgic condition, the so-called gastric crisis, too frequently diagnosticated as gastralgia from local causes. Attacks come on at occasional intervals without obvious cause. The pain is exquisite and there is at times vomiting. The organic memory and organic sensation are disturbed, particularly in the depressed type, and the belief is called into existence that a portion of the organism is dead or that the body is all gone. Self-mutilatory acts are sometimes committed because of the feeling that a member is worthless and should be out of the way. Such cases as these lacking the one element which is present in the other class, namely, that of good feeling, are pitiable in the extreme.

Differential Diagnosis.—The differential diagnosis from the condition of pseudo-paresis, the result of prolonged alcoholic indulgence, is in some instances difficult. In both conditions there are apt to be extravagant delusions, the oculomotor symptoms, fibrillary tremor of the tongue, ataxic gait, exaggerated reflexes, and the phenomena of epileptiform seizures. A careful study of the etiology of the case will go far to clear up the diagnosis or at all events influence the diagnostician to withhold judgment until the results of treatment for a limited period of time can be ascertained. The symp-

toms of pseudo-paresis due to alcohol will, as a rule, change materially within four or six weeks of quiet, the withdrawal of the habitual stimulant, the use of hydrotherapy, employment of cardiac and general tonics, restraint, and the hospital or sanitarium régime. I have in mind at present two cases in which the resemblance to paretic dementia was so strong as to lead to the diagnosis of the latter condition. In one there were delusions of the most extravagant type, the pin-hole pupil, indistinctness in articulation, visceral delusions, and marked ataxia in gait and speech. Regis says that inequality of the pupils is scarcely ever lacking in alcoholic pseudo-general paresis, and that permanent hemiplegia and aphasia are more frequent and more persistent than in true paresis. The pupillary aperture is often misshapen, the pupil is dull and cloudy, and visual acuteness is lost in the alcoholic type. In the remissions of general paresis, pupillary inequality is one of the first symptoms to disappear, while the embarrassment of speech remains in a greater or less degree. The reverse is true of alcoholic paresis.

The recognition of doubtful cases of paretic dementia in early stages has been simplified in recent years by blood and spinal fluid examination. If a so-called positive Wassermann reaction is obtained from the blood the pre-existence of syphilis is indicated and is to that extent conclusive as to a causative factor. In recent and possibly curable cases of cerebrospinal syphilis the Wassermann is less uniformly positive than in paretic dementia, a so-called *parasyphilitic*¹

¹ It has been demonstrated by recent investigators studying the brains of those suffering from paretic dementia that there

disease. The Wassermann blood test requires special apparatus and nicety of manipulation and can be successfully made only in a clinical laboratory or by one skilled in chemistry and having the necessary equipment. As to the examination of fluid obtained by puncture of the spinal canal in the lumbar region, if this should show the presence under the microscope of more than a very few lymphocytes¹ or of numerous plasma cells of large size, the result of the examination would be highly confirmatory of any well-grounded suspicion of paretic dementia based upon psychical and bodily symptoms.

Stearns says that in alcoholic paresis delusions of grandeur are persistent, and rarely change, while in true paresis these ideas change from day to day without order or consistency. He also says that the difficulty in pronunciation of certain words and sentences is greater, and the fibrillary tremor more limited in general paresis than in the other condition. In both, epileptiform seizures and local anæsthesias occur, but in alcoholic paresis hallucinations of sight and sensory disorders are more marked than in paresis. In alcoholic paresis the patient frequently suffers from gastric catarrh and loss of appetite, while a ravenous appetite is almost an invariable accompaniment of true paretic dementia.

Bevan Lewis says that motor impotence, not incoordination or ataxy, is the distinctive feature of alco-

are present in these the living spirochætæ of syphilis. The trend of thought at the time of this revision is toward abandoning the designations *meta-* and *para-* syphilitic.

¹ Lymphocytes and plasma cells are constituents of the blood, and, in small numbers, of the spinal fluid also.

holism of the motor sphere of the cerebrum. The earliest indication of this is usually a notable degree of fine muscular tremor, implicating, in the first place, the fingers and hand, and gradually spreading to the arm; in the next place, involving the tongue, lips, and articulatory muscles generally, and, lastly, extending to the foot and leg. The tremor is always more marked in the morning and may be dissipated by a glass of spirits; if at first not obvious, it may often be brought out by prolonged extension of the arm, any slight voluntary exertion tending to establish it.

The depressed form may be differentiated from neurasthenia by the presence in paresis of motor symptoms referable to the eye and of impairment of memory.

Psychological Analysis:—

Sensation—at first lively, later slow—may be abolished.

Perception false. Hallucinations or Illusions at times present.

Memory hopelessly impaired.

Organic Memory impaired. Personality totally changed.

Ideation feeble, irregular.

Reasoning and *Judgment* progressively impaired. Grandiose delusions.

Emotions, as a rule, exalted and pleasurable; sometimes extremely depressed.

Will impaired; inhibitory control impaired and lost; higher cerebral reflexes impaired and lost. The attention is fixed with difficulty.

Physical Symptoms.—Progressive loss of ability to use the voluntary muscles (inco-ordination of move-

ment); change in pupils; constipation or diarrhœa; enormous appetite; lack of control over the bowels and bladder; retention of urine; cystitis; bedsores; fragility of bones; convulsions or apoplecticiform attacks.

In Paretic Dementia there is, as a rule, no tendency to suicide, but self-mutilation may occur, in the belief that a dead or offending member should be removed. Suicidal impulses are present in occasional cases.

The homicidal tendency is encountered but rarely. One patient planned to crush another's head in a door. Another choked a nurse to the verge of complete asphyxia. Habits careless from the first, and toward the close of the disease untidy and degraded.

Termination.—Death.

Treatment.—No hope of recovery and little hope of permanent amelioration may be held out in this disease. Although syphilitic etiology may be established beyond peradventure of doubt, direct specific medication is not often found to be of curative value. The only possibility of a relief of the condition, however, lying in an antisiphilitic régime, the use of the iodide of potassium is at least in the earlier stages advisable, perhaps demanded. The patient should have care away from home to a well-appointed hospital or sanitarium where non-irritating restraint and control may be exercised, the patient prevented from squandering his means and from disgracing or discrediting himself or his family by acts prompted by the morbid condition. The routine life of the hospital, hydrotherapy, and exercise suited to the capacity and strength, careful regulation of diet, attention to elimination, and the absence of exciting or disturbing influences frequently bring about a prolonged remission in the disease. The disease proc-

ess seems to be arrested and the patient's condition remains for months very comfortable. It is yet too early to speak of the efficacy of the Swift-Ellis intraspinal salvarsanized serum treatment, of late in vogue.

Sleep-producing agents are often needed and of these the most generally available and best borne are chloral hydrate and the bromides. These remedies in doses of 20 to 25 grains of the former and 20 grains of the latter are valuable in the distressing complication of epileptiform seizures and act satisfactorily by the rectum when their administration by the mouth is impracticable. In but one instance have I ever discovered any contraindication to their employment. In that case, one of the depressed and asthenic type with remarkable insight into the condition, there resulted collapse—not once only, but twice or thrice, until the relation of the symptom to chloral and bromide ingestion was indubitable.

Juvenile Paresis.

A form of parietic dementia affecting the young (Juvenile Paresis) was described by Clouston, in 1877, and in recent years has been brought plainly to attention by Kraepelin and his school. It develops, as a rule, at or about the pubescent age, but in some cases at as early a period as the fifth or sixth year. The existence of syphilis, naturally in the vast majority of these patients inherited, is brought definitely to light through the Wassermann reaction and examination of the spinal fluid. A case at one time under the author's observation presented the following symptoms:—

She was said to have been bright in school in very early childhood, but at the age of 12 gradually grew dull and could

not master her studies. Because of deficiencies she was not popular with her associates and became extremely sensitive. She did not enter into sports with those of her age and experienced much distress because she lacked attractiveness to those of the opposite sex. At the age of 22 there occurred a hysteroidal attack during which she opposed attentions, could not be persuaded to go to bed, displayed purposeless activity, suffered from insomnia, talked constantly, and was repetitious. A year later an attack attended by muscular tremor occurred. She could not feed herself, was ataxic, and subject to falls. These symptoms slowly increased. There developed drooping of the eyelids, stammering and tremulous speech, great emotional disturbance, and confusion. There was frequent outcry to "go somewhere" and she repeated over and over "Don't leave me alone," "I want my clothes," "I want to go out in the automobile." There was retention of urine as well as frequent untidiness. She was but partially oriented as to her surroundings. The temperature was slightly elevated, 99° to 100°, and the pulse was rapid, 82 to 100. She was destructive to clothing and resisted attention. Some slight improvement in recognition of her surroundings occurred, but this was attended by increased irritability. Control over the lower extremities grew feebler; the gait, staggering. Eventually a severe epileptiform seizure occurred. This patient showed the Hutchinson notched teeth. At the time she was lost to observation there was spasticity of the lower extremities and a tendency to contractures.

In many cases such as the foregoing contractures proceed to shocking deformity.

Dementia with Paralysis.

This is a form of dementia produced by, and dependent upon, previous damage to the brain, by an apoplectic attack, the occlusion of some blood-vessel cutting off the nutrition of certain parts of the brain, or cerebral degeneration in some of its forms. Here well-defined

delusions are rare, but there are great irritability, emotional disturbance, perversions of feeling, and a tendency to misconstrue the motives of others.

The outlook in this disease is unfavorable. Impairment of the bodily and mental health is apt to go slowly on. Death may occur from apoplexy or an epileptiform or apoplectiform seizure.

Insanity from Syphilis.

Disturbances of mental operations the direct result of functional or organic brain disease from syphilis are encountered. They appear in connection with syphilitic arterial disease, with new growths, with meningeal inflammation. In the early period of brain syphilis there may appear a neurasthenoid condition, with difficulty differentiable from neurasthenia proper. Occasionally confusional excitement occurs. Most commonly mental symptoms of a morbid character follow epileptiform or apoplectiform seizures. They are those, as a rule, of dementia, with irritability and emotionality. The impairment in the memory sphere is conspicuous, and bewilderment is occasionally of that degree that recognition of the surroundings is imperfect and the patient encounters the danger of wandering away from home and forgetting his name and residence. The acts of the morning are forgotten by afternoon, and the acquisition of names of new acquaintances is impossible. Epileptiform and apoplectiform states attended by paresis or paralysis occur.

Treatment.—These conditions, being the direct result of the syphilitic bacillus, are more or less amenable to methods employed for the extermination of the

spirochætæ. A very positive Wassermann reaction should determine vigorous specific treatment.

Manic-Depressive Insanity.

Under this head are included the recoverable psychoses heretofore designated as acute mania, subacute mania, simple melancholia, melancholia with frenzy, and melancholia with stupor, as well as the mixed chronic form of disease characterized by alternating periods of excitement and depression, the so-called recurrent mania (*folie circulaire*), or alternating insanity.

In the manic or excited phase of manic-depressive insanity, the mental disturbance is of recent onset and its leading characteristics are changing delusions and active excitement.

Its development is usually somewhat sudden, although it will be found as a general thing that the patient has suffered for some time before excitement occurs from depression, emotional instability, sleeplessness, loss of appetite, constipation, and other derangements of the bodily functions. When excitement appears the patient becomes noisy, restless, at first irrelevant, then incoherent in conversation, irritable, and impulsive. All grades of excitement are encountered, from extreme restlessness to complete lack of self-control. Excitement may proceed to that degree that the patient is never quiet when awake. There are extravagance in speech and frequently religious exaltation and conversation on Biblical subjects. The patient is by turns patronizing and antagonistic. He offers large sums of money for trifling services, is conscious of great power. One wishes to be dressed in white because this color is emblematic of purity, would

will her property to the nurse, denies her parents' relationship to her, and conceives herself a superior being; believes she can save souls, that her touch is magical. With such extravagant fancies there may be fear of fire and assault and hallucinations of the presence of animals. One may be obscene one moment, in prayerful mood the next. In the midst of obscene and profane talk the patient declares he is working for the Lord. Delusions in respect to religious sects and fraternal orders are often mentioned. There is sexual excitement and masturbation is common. One patient I knew declared that a colored woman had given him cantharides to exalt sexual desire. Assaults are made. The patient asks for water only to dash the glass to the floor. He spits upon those who come near and is often otherwise untidy. He imagines himself charged with electricity and can shock others unto death.

Psychological Analysis:—

Sensation is lively, impressions travel quickly, and are largely objective and pleasurable, although these may change rapidly to the painful.

Perception is false. Hallucinations of sight and hearing occur; they are usually pleasurable but are apt to change suddenly. Illusions may be present.

The *Memory* is temporarily impaired; percepts are registered in a distorted way and inaccurately.

The *Organic Memory* is changed; the personality is changed, leading to delusions such as those of great strength and power, or that of a superior being.

The *Ideation* is interrupted. Percepts come into consciousness one after another irregularly, are not grouped into concepts accurately, are incoherent, fleeting, and disorderly. Flight of ideas occurs.

The *Reasoning* and *Judgment* are impaired. There is incoherence in the grouping of concepts. Delusions are of a changing character and usually pleasurable. There is frequently religious exaltation, the impression of divine command, of a call to preach and of inspiration.

Feeling.—Emotions exalted and pleasurable for the most part, but changeable as the hallucinations' or delusions change.

Volition.—The will is impaired. Mental reflexes are prompt, but inhibitory control is lost or greatly impaired. Assaults are made impulsively and blows and kicks are dealt to others because of the irregular, excited muscular action constantly present. The clothing and bedding are destroyed; the patient breaks windows and damages furniture. He denudes himself and exposes his person shamelessly. Erotic excitement is present. The attention is fixed with difficulty, one thing after another engaging it temporarily. Impressions are largely objective, and, being derived from different objects in rapid succession, are fleeting and inaccurate. There is great pressure of activity.

Physical Symptoms.—The circulation is rapid, the skin hot, the tongue dry and coated, eyes suffused and congested, the temperature elevated, the urine scanty and high colored, the bowels at times loose, at others costive, sleep fitful. There is rarely complaint of headache or other evidence of pain. There is refusal of food due to two causes: indifference, from constant activity, which prevents the patient helping himself or forbids his receiving food at the hands of another, or repugnance, because of the disordered condition of the secretions.

In the excited phase of manic-depressive insanity there is, as a rule, no tendency to suicide. The habits may be untidy by reason of indifference to bodily wants and concentration upon delusions and morbid concepts.

Termination.—The tendency of this disease is toward recovery, provided the physical health can be maintained. The excitement gradually increases, particularly in those cases where early and careful treatment is not afforded. Within four to five weeks it reaches its height, then shades off slowly, the condition of sleeplessness being gradually overcome, food taken in better quantity and variety, the condition of the alimentary canal improved, and a better state of elimination by the skin and kidneys occurring. On the subsidence of excitement a condition of depression, of emotional disturbance and weakness of will is present. There are at this time lack of appreciation of the past condition, restlessness, fault-finding, a feebleness of attention and of reasoning and judgment. Later, if the patient recovers, these morbid feelings disappear.

Treatment.—In the treatment of this form of excitement perfect rest should be given the patient so far as practicable, avoiding, if possible, the use of manual and mechanical restraint. The ice-cap to the head, the use of strychnine and other cardiac tonics, and remedies to promote elimination are of the utmost value. A course of calomel in small doses should be given at least twice a week, the bowels being kept in soluble condition meantime by the exhibition of salines and other laxative drugs, and the use of the colon flushing. In this condition there is invariably an autotoxic state to which medical therapy should be principally directed. The diet should be nourishing and liberal, the patient

being induced to take, at such times as his attention can be gained, milk, malted milk, eggnog, soups, broths, cream toast, custards, cornstarch, and other light and quickly prepared dishes. Sedatives should be avoided in the daytime, but a dose of veronal or sulfonal, 10 to 15 grains, followed three or four hours later by 20 grains of chloral, with or without valerianate of ammonia or strychnine, will usually be sufficient to induce a quiet sleep of several hours. A small amount of exercise in the open air may be permissible, provided excitement is not increased thereby, and provided the patient can be isolated from other people. The patient is, however, better if left much of the time quietly in his room under the supervision of a vigilant nurse, who will give attentions when they can be offered without contributing to excitement and will forego or postpone them when tact suggests this course. To minimize destructiveness, bedding of a non-destructible character should be provided. Where indispensably necessary, to prevent rapid exhaustion and for the purpose of giving nursing attention, the rest sheet may be employed. The prolonged tepid bath of several hours' duration is of great calmative and curative value in these cases.

During the critical period of convalescence of which mention has been made, the patient should be safeguarded from over-mental stimulation and should be judiciously cared for until such time as the bodily health is fully restored and mental stability re-established.

Depressed Phase.—The reverse of the picture displayed in the maniacal or excited phase of manic-depressive insanity is found in the melancholic or de-

pressed phase. Here *mental action is slowed, concepts and delusions are of a painful character, and vague impressions of a distressing nature put a check upon conduct.* Every grade is encountered from simple depression, a feeling of gloom and despondency without delusions, to deep depression with painful delusions, depression with agitation and motor restlessness, or a condition of frenzy.

One may develop all of the above symptoms or in its manifestations the disease may be limited to any one to which reference has been made. Furthermore, there may be episodal or intercurrent alternations of gloom with exaltation, but the dominant note is one of anxiety and distress. The development of the condition is slow. Constipation and auto-intoxication figure largely in the etiology. There is at first a feeling of heaviness and gloom. There is failure of attention; patients tire of their tasks easily and overlook business details. Gradually the condition deepens, the patient feels a sense of worthlessness and wretchedness, there is a disposition to shun other people and to avoid mental effort altogether. The patient is gloomy and dejected, indifferent to exercise, works only under prompting and does not carry tasks to completion. A step further and delusions of a painful character develop. In explanation of the feeling, the patient attributes his distress to a sinful state and perhaps seeks consolation in religious exercises. These add fuel to the flame and delusions that the soul is lost, that the patient has committed the unpardonable sin, and that everything is wrong with the spiritual state, appear. "It was with inward horror," says one, "that I sank into the abyss and confronted the inevitable. I knew

it with a certainty and positiveness compared with which the axioms of mathematics are the vaguest rumors and hearsay."

In some cases the going over into a delusional state is determined by the injudicious talk of friends, or by the babble of faith curists and Eddyites. Character may be given to the delusions by the ill-considered outgivings of those in whom the patient confides. One in a morbid nervous state was told by a so-called Christian Scientist that there was no such thing as death. This she came to believe, turning it over and over in her mind interminably until the delusion that she could not dië developed and suicide was attempted in order that she might make a test of the matter. Another, a refined young woman, having had erotic thoughts in connection with a painting, was told by her priest that she was possessed of the devil and a delusion was at once determined. Passages in the Bible, particularly those of a dark and somber hue, are read and pondered. One believes herself possessed by evil spirits; that she is unworthy of affection and should be badly treated; that she has led a dual life; that her influence upon others is bad; that she brought sin into the world. The patient is bent upon self-chastisement or suicide. One throws herself under a moving trolley car, another takes poison, another severs an artery. One burns a finger with the idea of tasting early the torments of hell later to be suffered in their fullness. Patients refuse food because unworthy to take it. There are painful sensations in the skin leading to picking the face. A mother in this condition may kill her baby to save it from future suffering and commit suicide to escape an ignominious death.

A condition of extreme motor agitation may appear. The patient moves restlessly back and forth, wringing her hands, moaning and deploring her wretched state. A step further and a frenzied condition comes into being. There is no rest for the patient day or night. She imagines herself burning up; that she is being consumed by the fires of hell; that poison is administered in food; that her life is threatened in every conceivable way. The color, red, in any fabric or decoration is pointed out as symbolic of fire. One sees herself disemboweled and buried alive. Sleeplessness is present; there is loss of appetite, or at least indifference to food, and in the agitated and frenzied phases refusal of food because of delusions.

Psychological Analysis:—

Sensation travels slowly in the simpler forms, rapidly in the agitated and frenzied forms, and is in both instances subjective and painful.

Perception is false and hallucinations of hearing and sight are present. Patients hear threatening voices and have visions of torment. Illusions may be present.

The *Memory* is not much impaired. Organic memory is impaired, the personality may be changed. Undoubtedly the delusion of demoniacal possession occasionally present in these cases is due to disturbed visceral sensation.

Ideation is particularly slow in those cases where there is hebetude and abstraction; is rapid in agitated and frenzied cases.

Reasoning and Judgment: Coherency unimpaired in the lighter phases, impaired in the frenzied phase; delusions are almost invariably present; there is a belief in unworthiness; that the unpardonable sin has

been committed; that the conduct of the patient has brought harm upon others; that he is responsible for the sins of the world; that his family is coming to want.

Emotions are depressed and painful, being depressed to such a degree at times that the patient believes himself incapable of mental feeling.

Volition.—In the simpler forms every act involves distinct effort. Inhibitory control is unimpaired. Attention can be fixed, but the effort is wearying. Mental reflexes are slow (Retardation). Assaults upon strangers or people not related to the person are rare. Homicidal assaults are sometimes made upon children or near and dear relatives because of the delusion that want stares them in the face and that they would be better off dead than alive. There is no tendency to destructiveness. In the agitated or frenzied phases inhibitory control is impaired or lost. There are extreme agitation and restlessness, and at times so great clouding of consciousness that sudden impulsive acts are made as if prompted by the impressions of delirium. In manic-depressive insanity of the depressed type there is a strong tendency to suicide.

Physical Symptoms.—In the dull and apathetic cases circulation is slow, the skin pale and cold, the tongue moist and coated and showing indentations from the teeth; the pupils are large and respond slowly, the sclerotics pearly white. Temperature normal or subnormal; urination sometimes profuse because of intense emotion; bowels invariably costive; sleep fitful and troubled by painful dreams; headache at the vertex or occiput almost constant, as a rule worse in the early morning; appetite poor, food is refused from delusions

of unworthiness to eat or bringing want upon others. In the agitated or frenzied phases there are disturbances of sensation of the skin leading to picking of the face and scalp to remove fancied insects or vermin. The patient is destructive and disorderly because of the existence of delusions. The tongue is dry and coated, and the physical symptoms very much the same as those in the maniacal phase. The tendency to suicide in frenzied cases is extreme. Self-mutilation frequently occurs, sometimes in an abortive attempt to commit suicide; again from the belief in the offending member, that the eye offends and should be plucked out, or that the presence of the sexual organs has contributed to the distress of the patient and that they should be removed.

Treatment.—Medicinal treatment should be directed to the relieving of constipation, the condition to which the autotoxic state is primarily due; to elimination by the bowels, skin, and kidneys. The bowels should be kept free by the use, two or three times a week, of calomel or calomel and podophyllin, followed by salines and colon flushing. The Russian bath and salt glow, followed by a cold shower and vigorous rubbing, are of much service. Patients should be kept in bed a large part of each day and alimentation forced. In pleasant weather a short walk in the open air is of service. This should be taken where the patient does not come in contact with inquiring friends or objects which excite anxiety or cause an increase in the delusional manifestations. The bitter tonics, strychnine, and iron are of service occasionally. In the agitated and frenzied states patients should be kept as much as possible in bed and carefully nursed. The refusal of

food is often a perplexing complication, and tube-feeding will be frequently required. Sleep should be secured by the use of a warm bath at bedtime and a powder of sulfonal, trional, or veronal. Occasionally a hot drink at bedtime, as malted milk, or digestible cocoa, will be sufficient to induce a night's sleep without the aid of medicine.

Alternating Type.—*In the alternating type of manic-depressive insanity, there are periods of excitement, periods of depression, and at times periods of composure and complete lucidity.* The first attack frequently occurs at the pubescent age, or in the woman a little later, at the age of 20 or thereabouts. Hereditary predisposition is found in a majority of cases, and from early childhood there are often evidences of emotional instability. It is not surprising, therefore, that the first symptoms should often present themselves at the age of pubescence, during which occurs the earliest and most notable physiological crisis which the system undergoes.

All powers of the mind are more or less affected. The symptoms presented vary with the stage of the malady and the intensity of excitement or the depth of depression. In excitement the demeanor of the patient may be similar to that of acute mania, but excitement is rarely so intense. Well-marked delusions and hallucinations are frequently absent, and there may be so perfect coherency as to deceive the inexperienced examiner. There is extravagance in expression and a high coloring of unimportant or immaterial matters. Patients of this class are fond of misconstruing, and with the slightest basis make embarrassing accusations against others with a view of justifying

loss of temper or impulsive acts. They are frequently sly and malicious and have an aptitude for sarcasm and invective and a keenness in retort very serviceable to one contesting guardianship or commitment, in mystifying juries. The conduct of patients during excitement is mischievous, and by the inexperienced attributable to moral perversion. They are exasperating and trying to the last degree, and one must keep constant guard upon his own temper in dealing with them. Many of the cases of so-called moral insanity are properly classified in this group. The patient desires everything in sight, spends money recklessly, borrows without provision for making payment, shows fickleness and change of purpose, is loquacious and inconsistent, does not respect the rights of property. He whistles and sings to the annoyance of others, does not carry work on to completion, affects fantastic dress, is incapable of mental concentration. He fancies himself gifted as an author or orator, and there is no sense of accountability for conduct, notwithstanding practically perfect ability to distinguish between right and wrong. In the period of excitement the patient misconstrues motives, makes unfounded accusations, sets patients up against each other, and patients against nurses. There is impairment of the inhibitory control. At times excitement reaches an extreme degree, but this is not the rule, and careful inquiry into such cases will develop the fact that periods of pronounced but not deep depression and brooding have alternated with those of elation and good feeling.

The increased capacity for cerebral effort, the assumption of responsibility for the affairs of others, and the heightened emotional tone shown in the early

period of excitement are well illustrated by the following letters from patients:—

“A strange experience in the drawing-room last evening in rather a wordy, quite unintelligible conversation with the musical voiced Mrs. —. She asked me if I had ever been in —. No, but I should have been, for one of my brothers studied four years at — College. She had been there (she was in some haste to tell me) and knew Mrs. —, and I said my brother married her eldest daughter and Mrs. — afterwards studied medicine and became Dr. — of —. Then she said that she herself was sent there for six months chaperoned by and under the care of Dr. — where she took lessons on the piano, elocution, etc. She also told me that Dr. — was at that time losing her memory. She spoke it very delicately for that was ‘the skeleton in the closet’ for them all until she entered into Rest Eternal, a dozen years after, but they managed to care for her at the homes of her daughters. Then there was a rambling, one-half incoherent talk about Unitarianism, Swedenborgianism, a little Presbyterian, and also, ‘piscopalianism. I could not help wondering if — could not induce her to stop whispering aloud to herself just in the dining-room, for then she would be very presentable. It seems to me she has been ‘cracked’ by not being founded on the Rock, Christ Jesus, when she was young and plastic and then later tried to satisfy her cravings with the visionary philosophy of Swedenborg which was not made for a shallow, flattered society girl, and nothing better supplied by a strong, kind teacher. She is quite interesting to me and has made me a game of logomachy cards to take home to my bairns. She had been working all the afternoon until her head ached upon fitting down to her unsylph-like figure the new waist they had sent her from home. The smile of ‘the chessy cat’ whatever that critter may be, will doubtless die away especially if the glare of — does its deadly work. Mrs. — maid needs to be asked to part Mrs. — hair with more nicety, especially in the back. Amen.”

Dear Dr. Burr: Please allow me to take a minute to tell you that I am fully aware that my present condition is one of

"elation." But I believe and hope I shall go safely through without a "bust-up." Your kindness and the consideration extended me by all your staff are highly appreciated. I am sleeping fairly well now, have good appetite, and, of course, life has a good deal of sunshine for me just at present. As you know, about the only time I can write, or compose, anything worth anybody's reading is during a period of elation: so I feel as though I should "make hay while the sun shines;" but I do not intend to inflict much or many (?) of my lucubrations upon yourself.

Very respectfully yours,

During the period of depression the patient is dull and listless. He lacks energy and application, is indifferent to exercise, inclined to remain in bed. His conduct is similar to that heretofore discussed under the depressed phase, but there is usually an absence of fixed delusions. As excitement is less than that of the manic phase, so the depression is less pronounced than in the melancholic.¹ In proportion to the gravity of the first will be found as a rule the intensity of the second, the pendulum swinging from one extreme to the other. In depression the patient is frequently remorseful for unpleasant acts done during excitement. Depression may shade off into complete composure and lucidity, of weeks', months', or years' duration, or on its subsidence excitement may again make its appearance.

Physical Symptoms.—In the period of excitement all the bodily functions may be carried on normally. There is heightened good feeling and a condition of well-being. In depression there appear constipation,

¹ There are exceptions to this. Now and again excitement is intense and depression extreme.

sleeplessness, headache, distaste for food, painful sensations coming from the internal organs, dyspepsia. Dysmenorrhœa is common, and gastralgia contributes to the patient's distress. There is occasionally tachycardia in excitement. In depression the vascular tone is low. There is complaint of pain in the head, and in the morning subnormal temperature may be present.

Treatment.—Efforts in the care of cases of this class should be directed to mitigating excitement and directing muscular effort into useful channels during the elated period; to stimulating and uplifting during the period of depression. As a rule, it will be found that in proportion as this can be accomplished the symptoms of the succeeding period will be ameliorated. If excitement is extreme and of long duration the succeeding depression will be deep and the physical forces impaired correspondingly. Exercise, and so far as practicable work in the open air, should be prescribed for the patient during elation. If the morbid energy can be diverted into useful channels much is gained. As a rule, during elation little medicinal treatment will be required. Attention to the diet may be demanded in exceptional cases where excitement is extreme and the patient uses up strength with great rapidity. The prolonged bath in the excitement of certain exceptional cases is desirable. During the depressed period the régime to be followed is like that employed in the care of those suffering from the depressive phase of the disease heretofore mentioned. The bowels should be kept free by laxatives supplemented by high enemas. Diet should be of a nutritious character, and the patient's repugnance to food overcome by urging. Inasmuch as there are no delusions which impel to abstinence from

food, insistence on the part of the nurse will, as a rule, be competent to overcome the patient's disinclination to eat and nutrition may be fairly maintained. While the disposition to lie in bed may be indulged in a measure, a moderate amount of exercise in the open air every day should be insisted upon, and so far as practicable the patient encouraged to engage in light forms of manual employment.

The Presenile (Involutional) and Senile Insanities.

As a result of the breaking down of the nervous system due to arteriosclerosis and cell degeneration incident to old age, different forms of mental perturbation may appear. As in one form of manic-depressive insanity, the early manifestations may be those of excitement. In certain cases there are present delusional states and considerable excitement and irritability, and there is otherwise marked involvement of the emotional sphere. The patient is erratic, impulsive, and boastful. He decks himself out in bizarre attire, fills his pocket with rubbish of all kinds, ties varicolored strings in his buttonhole, is loquacious to garrulity. He is intolerant of suggestion or criticism and, if angered, does acts of violence. Cared for with any lack of discretion, excitement is bound to increase and may reach a state of frenzy, terminating in exhaustion. Partial recovery may succeed an attack of this kind or it may be followed by the condition known as senile dementia.

On the other hand, the leading symptoms may be those of depression. *Indeed, the term melancholia has been restricted to the description of that form of*

mental depression which is incident to the post-climacteric and presenile periods of life. The most prominent features of this condition are those referable to the bodily organs. There are visceral delusions and hypochondriasis. The patient believes that no action goes on in the internal organs; that there is closure of the œsophagus; that the bowels are stopped up, and that there is not and can not be any digestion. For this reason food is taken indifferently and tube-feeding is at times necessary. The patient believes that every act of his recent life has been erroneously done. If he has sold his farm he talks constantly about the deal, regretting it, and insisting upon repurchase. Sometimes the insistence is so extreme that the repurchase is effected at a price in advance of that of the sale. The bargain consummated, the patient is overwhelmed with self-reproach, and nothing will serve his purpose but to dispose of the property again, even at a second sacrifice. All the time he believes that he and his family are destined for the poor-house. In the midst of plenty he avers that they are coming to want, and is worried day and night over the certain catastrophe on just ahead. Certain patients hang their bad feelings upon the most unimportant pegs. One that I knew attributed all his troubles to the sale of a boat in which he was interested.

Visceral delusions arising from impaired circulation and deficient innervation of the internal organs give birth to the idea of dissolution, and the patient proclaims incessantly that the present are his last moments on earth. Pain may be referred to the stomach, to the organs of the chest, or to the sexual organs. In one instance a terrific orchalgia was complained of, this

notwithstanding no external evidence of inflammation, congestion, or change in the contour or consistency of the contents of the scrotal sac. Patients thus suffering moan and lament and are in distress continuously when awake. They demand hypnotics and secure sleep largely through these medicines. The blood-pressure in exceptional cases may be extremely high.

The third condition incident to the senile state is that of dementia. There is impairment of all the faculties of mind. There are delusions, lack of appreciation of surroundings and extreme mental confusion. The patient is unable to dress or undress himself properly. Memory for recent events is obliterated, for remote events imperfect, and may or may not be annihilated. Recent concepts are not registered. There is meaningless chattering. The patient putters about and is a source of constant anxiety to those having his care by reason of the danger from falls and other accidents. He is apt to be out of bed and wandering in his room at night and needs constant attention, which, however, he is apt to resist to the limit of his strength.

Treatment.—The general rules of treatment laid down for the care of cases of manic-depressive insanity in excited and depressed periods are adapted to the similar states in presenile and senile conditions. The bowels should be kept regular, attention should be paid to the diet, tonics administered regularly, and hypnotics from time to time as indicated. Special nursing attention is necessary for these cases to keep them out of mischief and to prevent injury to themselves or others. In some cases of presenile melancholia the contemplation of suicide is strong and, it may be regretfully added, is occasionally accomplished.

Experience with a case of involutonal melancholia in which blood-pressure was 200 on admission and for three months never fell below 150, the average being about 170, is of great interest because of the outcome. This patient had been sentenced to death by the home neurologist, the assumption existing of cerebral arteriosclerosis of extreme degree. The relation between blood-pressure and the emotional states was striking and invariable. With anxiety and restlessness (she was violent and suicidal and entertained divers delusions, among which was that she had swallowed something which occasioned intestinal obstruction, and that she had committed the unpardonable sin), blood-pressure promptly mounted. Once it reached 200 because of fretfulness over a change of room and again 185 for an equally unimportant reason. Lowering of blood-pressure and relief in the emotional sphere invariably followed the cabinet bath. Medicines employed were iodide of potassium and nitrate of sodium in small doses three times a day. Medication was not uninterrupted, blood-pressure readings furnishing indication for its withdrawal and resumption. Incidentally it is worthy of mention that laceration of the perineum was extreme and there was complete procidentia uteri. Operation was not permitted by the friends, although desired by the patient and advised by a competent gynecologist and by myself. Recovery was perfect. Had there been operation and rapid improvement thereafter, it is feared that psychiatry would have been denied any considerable credit for the results.

Patients suffering from senile dementia should be carefully watched and waited upon. So far as possible

they should be freed from annoying attentions, and whatever means necessary to be used in their care should be undertaken with extreme tact and gentleness. It is of the greatest importance that the bowels should be kept free. In most senile cases strychnine and its preparations constitute the best and most dependable general tonic. Beware of the danger of falls which often result in fractured thighs and of ruptured bladder from overdistention. These complications are much to be dreaded.

Epileptic Insanity.

The complication of insanity with epilepsy is observed with some degree of frequency. There is slow deterioration; and impairment of all the mental faculties to complete annihilation may occur. Along with intellectual deterioration there is great emotional susceptibility. Patients are irritable, impulsive, and violent, and during the excitement which arises from time to time in the progress of the disease may be extremely dangerous. With all the irritability, intolerance, and disregard for others, there is in the early stage of the disease, before mental degeneration has become too far pronounced, a strain of religiosity. Patients of this class study their Bibles with great earnestness. They are fond of employing Scriptural quotations and are critical of even the slightest moral lapses on the part of others. In institutions epileptic patients seek the society of each other and may conspire against the nurses.

During or following the condition known as *status epilepticus*, where repeated convulsions occur in the course of a day or several days, a prolonged period of

confusional excitement may occur. At such times the patient is highly dangerous.

Treatment.—In the care of cases of epileptic insanity, the bromides and tonics must be depended upon as a regular prescription for the allaying of nervous excitement. Exercise in the open air, safeguarding the patient from injury and from accident due to falls in perilous situations, should be given. During status epilepticus and epileptic excitement the patient is best cared for in bed, withdrawn from all exciting incidents and anything calculated to arouse a nervous reflex leading to pugnacity and damage to property. During the occurrence of frequent seizures, chloral hydrate, given in 20- to 25- grain doses, with an equal amount of bromide of potassium, once in three or four hours, as necessary, is often of great value.

The Hysterical Insanities.

The unchecked impulses of the hysterical patient may become to such an extent habitual that a true insanity develops. The acts of disorder, noisiness, and destructiveness so prominent in these cases are due to impairment of the will and inhibitory control. There is absence of delusions properly so called, although the patient may feign their existence. *The leading features of the insane condition resulting from hysteria may be of the maniacal or the melancholic type.* Patients are extremely imitative and are apt to do what they see other patients about them doing. Later on, with excitement, there are the usual physical signs of hysteria, the pallid countenance, flushed only during active mental disturbance, the cold, clammy hands, the relaxed and perspiring skin, the dilated pupils, the sen-

sation of a ball in the throat. In the depressed form patients are extremely emotional; they weep easily, they suffer, in fancy or actually, much mental distress; they are incapable of exertion, they permit their limbs to become contracted from disuse, they present paralysis of motion and anæsthesia. Terrific attacks of vomiting and strange vasomotor disturbances of the skin may be present. Such patients are without delusions aside from those which strictly pertain to bodily sensations and movements. They are not, as a rule, suicidal, but often threaten suicide, and one may under strong impulsions seize a favorable opportunity to destroy herself. I have known the approach of a train of cars to furnish this opportunity to one who I have every reason to believe was not seriously contemplating self-destruction. It should be remembered further that acts committed for the purpose of exciting alarm or sympathy and not intentionally suicidal may result fatally.

Hysteria may simulate meningitis, acute maniacal conditions, or epilepsy. A case of considerable interest from a diagnostic standpoint is the following:—

The patient was 16 years of age, single, a student, and of good heredity. He had been delicate, had had otitis media when a boy, and repeated attacks since. Ten years before coming under my care he had septic infection of the lymphatic system of one arm. There was suppuration of the glands, several of which required to be removed. In the preceding January, he had a severe attack of scarlet fever, which was followed by quinsy. Convalescence was slow, and he failed to regain strength. One day, when sitting at table, he complained of feeling ill, and, suddenly seizing his head, screamed with pain. The physician who reached him a few minutes later found the head and upper trunk intensely congested and the extremities cold. There was extreme photophobia, and

for two weeks he was confined to a dark room, a compress covering the eyes. He improved, but a few weeks later, returning from a drive, had a similar attack. In this one he fell to the ground, and the nurse in attendance reported to the physician that she believed that he had had an epileptic seizure. The photophobia returned, and reappeared at irregular intervals after that time. There were attacks simulating *petit mal*, the face wearing a blank expression and momentary unconsciousness apparently occurring, but certain symptoms preceding attacks led to the suspicion of a strong emotional element. During the attacks he was restless and confused, and moaned, cried, and talked deliriously. The opinion of the specialist called in consultation was that meningitis was threatened. Later there was complaint of pain in the stomach, and at times the locality of the pain suggested appendicitis. Following an attack three weeks before admission to Oak Grove Hospital he had aphasia, and a paretic condition of the entire muscular apparatus. He was unable to pick up articles or to write. Cerebration was much delayed, and the reflexes were slow. There was elevation of temperature. Constipation was present. It was feared at the time he came under treatment that a dependence on morphine had been established. He had required a small fraction of a grain daily, was subject to emotional storms and attacks of pain, and this agent seemed to be required for his relief. None was given him at the hospital, however. After resting in bed for a time with the ice-cap to the head he grew quiet, and the night after admission, but for a hysterical attack, slept well without medicine. One night only he was wakeful and required a hypnotic. A note made two weeks after admission states that there have been no unfavorable symptoms since the first twenty-four hours, and it is believed that the hysterical outbreak of the first evening was due to the injudicious attention of a nurse who came with him, and whose stay was insisted upon by the patient's friends. The case emphasizes the importance of change of environment in such cases. At home the attention the patient received was fussy and injudicious, and altogether disproportionate to the actual requirements. The condition was evidently aggravated

also by a degree of eroticism toward a woman nurse in whose care he had been placed for several months.

Much light has been shed in recent years on the mechanism of hysteria through the researches of Freud and those of his school, who attribute the occurrence of the psychical explosion which characterizes hysteria to suppression of some experience of early life occasioning trauma (injury) of a sexual character. The suppressed recollection of something which for the moment made profound impression, the defense against the recollection induced by modesty, humiliation, self-censure, or convention occasion a subconscious smoldering which under favoring circumstances bursts into flame. The muscular agitation, the loss of self-control, the bizarre movements, the outcries, the convulsive phenomena, are prompted by subconscious impulses. Even as there is eruption of the volcano when pressure within exceeds resistance from without, so self-control is lost and erratic and erotic acts take place. One may refer to pain in the abdomen, as in a case which came under my observation, and demand morphine and other sedatives for its correction, translating a purely erotic fancy developed from sexual indiscretion into actual pain. Another, asked to communicate in detail a visual hallucination, spoke of a fish bearing the head of a man swimming toward a woman's sexual parts. The outgivings of the patient in reference to this symbol were those of an unusual sexual experience which had evidently occasioned much self-censure. Through the revelation of that which had fretted and distressed, the hysterical symptoms were completely relieved and recovery speedily followed. In this case the bounds of ordinary hysterical unrestraint had been

far exceeded. There was an acute delirious condition accompanied by visual hallucinations and frenzied excitement. Refusal of food had led to emaciation and debility. Suicidal impulses were present to an extent which necessitated close and constant supervision.

States of Obsession.—Closely allied to hysterical or hysteroidal cases are those showing besetments or obsessions and dual personality. Morbid obsessions are of every kind and degree. They pertain to the health, surroundings, and circumstances of the patient. They interfere with his uprisings and downittings, and are senseless and absurd, but they cause the lives of those they influence to be to the last degree wretched. Tormented by doubts, hesitant in performing acts, with possibly unimpaired judgment as to the proper course to pursue, such patients vainly battle against the horrors of the bondage they feel, and are deserving objects of commiseration. To one class of the obsessed pertain those who are constantly exercised by the necessity of inquiring into the whys and wherefores of everything in life. The smallest matters are minutely analyzed, the most commonplace things are subjected to rigid inquiry, and the patient is in more or less frequent anguish because unable to come to a satisfactory decision upon the subject presented to his mind. This may be an extreme exaggeration of a disposition displayed by certain neurotic children to catechize upon commonplace matters to the limit of their elders' endurance. Others are deeply concerned over religious matters. They fear that some essential religious observance has not been met and that, in consequence, a sinful state has developed. Others, still, are beset with fear and feel baseless and unreasoning alarm from the

elements, objects, places, and diseases. One whom I knew thought that blood flowing from a cut finger would harm those who came near and believed that whoever was in the direction toward which her hand pointed when putting on her sleeve would be harmed. One patient is compelled to count the squares in the pavement and the trees by the side of the walks; another gives utterance to oaths and vile language. One whom I knew betrayed no other evidence of disease, aside from general reduction in mental strength, but was beset by an impulse to kill his wife and had sharpened a knife for that purpose. Another patient under my observation, with perfect realization of his condition, had impulses to strike and dreaded the time when he could no longer resist them. One form of besetment is the aboulie. There is absence of will. A patient under my observation suffering from aboulia described her condition as follows:—

“The first great trouble of my life occurred about nine years ago, when I lost by death a beloved child. Two years later, a little son was born to me. I was far from strong then, and it was during this pregnancy that I had my first sinking spell; it was of course attributed to my condition at the time, but they have occurred with more or less frequency ever since. Latterly, there has been a longer lapse of time between the spells, and not so severe. When my baby was one year old, death deprived me of both father and mother in the course of six weeks, and this, added to many family troubles arising at that time, I think is the direct cause of my illness, although I do not think my disease reached its climax until four years ago, when I had a miscarriage. Since that time it has been impossible for me to recover the mastery of my nerves and self. My condition at present, I think, is more hopeful than morbid, although I have hours of exaltation and very many of depression when I feel that I will never get well; in fact, only become worse as the years roll by. My un-

happiness consists more in the fact that I am unable to contribute to my family's happiness than on my own account, for I think I could easily accommodate myself to circumstances.

"My nervousness takes several forms. In an undefined dread which makes me feel unsafe when abroad, when at the homes of my friends or shopping, which when persisted in by me as a means of cure, causes untold mental suffering, introspective reasoning, faintness, general restlessness, and intense pain of all the nerves covering the entire body, but severest in the hands and knees. This condition is the same while entertaining in my own home, not usually so severe, but is present more or less all the time, although at home I am more able to control myself on account of the feeling that when my powers of endurance give out, I can retire to the privacy of my own apartments and send for a physician when necessary. I do not mean, to state the following in praise of myself, yet, I have been able to fight these unusually well. I merely state this fact, for I have often been told it was only imagination on my part and that if I would only exercise a stronger will-power, I could do much to help myself. These pains in my knees, which I spoke of before, are very severe at times, and always accompany or follow a restless night or worry of any kind. The other forms of nervousness are a longing to cry at times, weakness of limbs, and trembling.

"I have no physical weakness to complain of. For a time, I supposed my heart weak, and thought each sinking spell meant death. I overcame that fear, and am only rarely troubled with palpitation. Appetite good, sleep fairly well, and am quite accustomed to being told I look well, yet I feel far from strong, and am tired to exhaustion most of the time. I often wish I had absolutely nothing to do, no responsibilities; and yet, I have found that by keeping myself very busy, I can ward off a nervous attack."

The obsession may be, as in one case under my care, of the swallowing or having swallowed some deleterious substance as pins or needles, or that in some way or other all lost pins and needles made their way into

her stomach. Obsession of words has been discussed at length in the section on "Symbolism in Sanity and in Insanity."

Other forms of obsession are closely related to manic-depressive states and to dementia præcox. The leading feature of these cases is horrible and persistent fear. In one case it was that of pursuit by electricians, compulsory marriage, and conspiracy in which her brother was involved. There was also fear of contagion and of sexual assault. She heard disparaging remarks as coming from distant voices which accused her of having a bad disorder, had an impression of being infected from a stool in the water closet, and thought to prevent sexual assault by wearing a rubber bag over the pelvic region. She believed herself responsible for trouble about to come upon her family.

A young woman, a bright student in school, of a highly religious turn of mind, was advised by an Evangelist that a young man who was interested in her was not a Christian and that if she married him she would have a soul on her hands. She sustained several attacks of hysteria, one incident to attendance upon revival meeting. There were disturbance of attention, confusion, and self-depreciation. She received suggestions from different articles of food. "If I eat that onion," she said, "and know that several other people eat them at the same time, they would all have the same train of thought and all would know that I was menstruating." Cocoa and chocolate suggested negroes; poached eggs¹ on toast, the minister who had conducted the revival services. Certain experiences which she did not mention indicated strong sexual temptation and delusions growing out of them were that her spiritual nature had been destroyed. Improvement in this case grew out of confiding in the nurse and to some extent in myself and the suggestions to treat as common-

¹ See section on "Symbolism in Sanity and in Insanity."

places the matters which had weighed so heavily upon her mind.

Dual Personality.—Dual personality is at times encountered as in the following cases:—

For two years before the patient came under my observation she was said to have had no recollection of incidents, although able to carry on her work and participate in the affairs of the household. During the first attack, two years before, she came to the table clad negligently, was dull and confused, appeared drowsy, and in the evening stuporous. The same night she became delirious and appeared to be resisting and fighting her mother (from whom she had been separated). She opposed attention and refused medicine. She assumed grotesque positions, such as hanging over the foot-board of the bed with lower extremities on the bed and arms on the floor, or hips on the bed rail and shoulders and back on the floor. There were also opisthotonos and cataleptoid states. At the end of ten weeks she was much improved, but her manner became entirely changed. From being amiable she grew wilful and acted in opposition to the wishes of her friends. There were attacks of grave hysteria for months afterward, when suddenly a change occurred. She felt something snap in the left side of the head and appeared as if waking from sleep, inquired how she came to be upstairs, and remembered going to sleep on the couch in the sitting-room, an event which occurred eight months before. There appeared to be obliteration of recollection of events during this time. A kodak which she had learned to use very skilfully was entirely unknown to her, and she appeared to be unable even to open the case, which was operated by means of a concealed button. Persons with whom she had become acquainted during the period were as perfect strangers. It was impossible to convince her that it was summer season until she was taken to the window and shown that there was no snow on the ground. Occasional hysterical attacks occurred subsequently. During the attacks she struck her head against the wall and it was often necessary to use force in controlling her. She tried to bite and would repeat petu-

lantly, "I will kill myself." Later her conduct became girlish and romping. She took childish delight in riding her bicycle at high speed. There was at no time any evidence of paralysis.

Another patient took the midday meal on Sunday with a relative. She appeared well. Three hours later she was in a state of mental confusion which seemed to develop at a religious meeting. The next day she was found on the street bewildered and lost. She thought she was in Pittsburgh. Recollection of Detroit and of previous acquaintances and incidents had been obliterated. She was quiet, dull, and confused. She made new associations and relearned the names of friends. She wept easily, assigning as a reason that she could not think. She received telegrams, one saying that her father was ill and asking an appointment with her in Canada. Her friends had no knowledge of any person of the name signed to the telegrams, and it was conjectured, rightly, as subsequently developed, that she sent them to herself.

Fugues.—Cases like the foregoing in which there is sudden flight or confusional wandering with complete failure of orientation as to time and place, the so-called *fugues*, are of very great interest. Appearing in the youthful subject, they are, in the opinion of Jung, the substitute for a sexual impulsions. That they are invariably due to some suppressed emotional strain is altogether probable, but this need not be of sexual quality, as the following case illustrates:—

A young man 28 years of age who had sustained injury to the eyeball fifteen years before (an injury which subsequently necessitated enucleation), of hereditary tendency to mental disease, of good habits, industrious and serious-minded, suddenly left his business and disappeared as completely as though lost in midocean. Ten days later, he was found by a native boy on the bank of a creek in the interior of Cuba. He was lying on his back, his face blistered by the broiling sun. Much longer exposure must inevitably have resulted in death. The native boy roused him and gave

him directions as to how to proceed. He walked during the balance of that day and the following night without food, finally reaching a park in Havana. There he was identified by a passerby as a fellow-American and taken to the Consulate, where provision was made for his immediate necessities. Not then or at any time afterward had he the slightest recollection of the incidents of travel.

In this case the so-called "complex" (the deep, subconscious, subtle association which determined flight) did not appear until three years later, when in consequence of business irregularities skilfully concealed for a long period he again fled to avoid exposure.

Anxiety Neuroses.—Related to the hysteric and neurasthenic states are the *anxiety neuroses*. The leading characteristic of these cases is, as the name indicates, extreme apprehensiveness. Delusions properly so called are non-existent. The patient is, however, in more or less constant fear of loss of self-control and of death. Dread of doing, anxiety over the possible result of effort, concentration upon the sexual apparatus, fear of impotency, pallor, flushings, sudden perspiring, distress in the region of the solar plexus, are accompaniments of this disorder. It has been attributed (erroneously, no doubt, in many cases) to certain departures from the normal in the sexual life. In the following case after years of acute suffering the patient was relieved by abdominal surgery. His own account of the condition and the results of surgical care are most interesting:—

"It will perhaps be of some interest to you to receive a few lines from me on the subject of my experience since my return here, though both Dr. — and Dr. — have probably fully advised you as to the technical features of the operation performed on me and of its happy and truly astonishing results.

"Soon after my arrival here, Dr. — suggested a further X-ray examination. This was made and disclosed a marked drop of the stomach, a condition which Dr. — seemed to regard as among the principal disturbing factors in my case. Dr. — however desired a more or better defined outline of the lower bowel and accordingly still another X-ray examination was made on the day preceding the operation. This revealed a very much mixed up condition of the sigmoid section of the colon, the particulars as to which you have probably obtained from Dr. —. The existence of an *excess* of about 18 inches in the colon at that point, and said to be congenital in its origin, presented a rather peculiar and perhaps exceptional condition.

"It was a case of worrying about a surplus rather than a deficit. In the course of the operation it was discovered that the appendix didn't look any too good and its removal has disposed of any possible cause for alarm in that direction. All these features, taken together with the kink in the transverse section of the colon, as revealed by the X-ray examination made in —, presented a rather large area for the surgeon's work and necessitated a long horizontal incision across the lower part of the abdomen as well as a diagonal one from the region of the stomach to the lower right bowel. It is perhaps due in part to the character of the incisions that I was left quite sore and highly sensitive to the slightest movement for quite a time after the operation. Indeed the first four or five days I was very sick and generally miserable, so much so that I don't think I shall ever resort to ether in search of a soothing influence.

"All the pain and discomfort, however, resulting from necessary surgical injury were very soon and almost entirely lost in the otherwise happy results of the operation. In so far as the former symptoms of great distress, fear, anxiety, and morbid speculation, etc., etc., are concerned, they have *practically gone*. I need not rehearse the past symptoms, which represented to me the full measure of human wretchedness and which totalled a feeling of absolute hopelessness, in order to emphasize the feeling of composure and restfulness and even *cheer* which has come to me, to all

of which I was a stranger for so long a time. True, I am not as yet doing any athletic stunts, being still very weak and much reduced in weight. I am gaining, however, in that respect, though very slowly, from day to day. Though unprepared as yet to resume my accustomed duties, I am preparing to leave for my home today, where I shall spend some time in storing up further strength and in putting a little flesh on a normally lean and lank figure—but I leave here in the realization that the controlling cause of my past troubles has been removed and that I may expect to be *back on my job* before very long. My appetite is good—even keen at times. My stomach is acting very well and the colon seems to realize what is expected of it, as I am taking no laxative only what is called vaseline oil prescribed by Dr. — to promote the desired action. In fine, unless I am very much deceived, I shall forget a harrowing past in dwelling on the old German phrase ‘*Ende gut—alles gut.*’”

Treatment.—In the treatment of these conditions the most important desideratum is the withdrawal of the patient from the surroundings and circumstances under which emotional control is with most difficulty exercised. Hysterical and obsessed patients are best cared for away from home in a sanitarium or hospital, where the daily life can be in every respect regulated. A nutritious diet, and the modified rest cure, massage, hydrotherapy, and a tonic régime are necessary. The bodily health should be built up and little by little the emotional control re-established, by work suited to the individual's capacity and strength, and by gentle suggestion and encouragement. In this work of restoration of nervous and emotional tone, months or years may be necessary.

The uncovering of the complex where this is practicable with the so-called mental catharsis (unburdening the patient's mind and bringing subtle emotions

into the open) through the methods of psycho-analysis is, as already indicated, of the utmost value in selected cases. The happy results of surgery in the above case emphasize the desirability of X-ray examination and the relief of visceroptoses when this is practicable.

Idiocy and Imbecility.

These are *mental defects from congenital causes or arrest of development in infancy*. In Idiocy there is complete absence of mental action, the operations of life being purely vegetative.

Imbecility is of all grades: from that which is extreme, up through the so-called defective types to paranoia, the highest form of congenital mental infirmity. Imbeciles are lacking in self-control, are irritable, impulsive, mischievous, and imitative of improprieties. The higher faculties of the mind are feebly developed. Powers of thinking are circumscribed. The emotions of imbeciles are easily aroused, and inhibitory control is feeble; consequently, they often do acts of violence. They are not, as Imbeciles, proper subjects for treatment in institutions for the care of the insane—measures adapted to them being more of an educational than medical nature. Imbeciles, like sane people, however, may become insane.

Paranoia.

Paranoia is *a form of disease occurring in one of congenitally defective nervous organization, and marked by certain well-defined symptoms which seem to be due to defects of development, and frequently appear as an exaggeration of natural characteristics*.

One suffering from Paranoia is from childhood somewhat peculiar. He may be bright and receptive in certain ways, may learn readily in school, but shows eccentricities of conduct; is self-conceited, introspective, and develops unsymmetrically. Without obvious exciting cause, or with some slight cause, as a fever, a trifling injury, or a disappointment, he becomes suspicious. This feeling is usually at first vague and indefinite. Mental depression may proceed to a considerable degree. There are associated with it, however, no fixed delusions of unworthiness, or of poison, as in the depressed phase of manic-depressive insanity, but vague ideas of conspiracy and disposition on the part of others to deprive him of his property or business rights. A business failure, perhaps, which has been the natural outcome of loose methods and indifferent application, is charged up to the machinations of those inimical to him.¹

This is the so-called "persecutory stage." Following this is what is known as the "transition stage." Some event may occur in the patient's life—a visual hallucination, a vivid emotional experience, a dream, a fortuitous circumstance, a casual remark by another, or the encounter of a passage in reading—which may furnish to the patient a key or clue to the mysteries surrounding his past career. He begins then to see that things

¹ I once knew a patient who, in this condition, enlisted in the army. He felt himself watched and checked in his laudable undertakings on every hand; he believed that the generals of the army—Sherman and Grant—were conspiring to keep him in the position of private, and prevent his meeting that reward in promotion to which his abilities and meritorious conduct entitled him.

have thus been planned out for him from the beginning; that he was to be brought up by those claiming his parentage, to conceal his noble birth; that he is a prophet, or even Christ. He diligently cons the Scriptures for references to himself, and finds in this passage and that the prediction of his coming; of the persecution to which he will be subjected; of his ultimate triumph. He sees now the reason why he has been persecuted in the past. It has been because of the envy of others, or because those who knew of his mental gifts or his true social position desired to keep him from coming into his inheritance. One patient conceived the idea that a large branch factory in which he was employed as foreman built for the purpose of producing a line of inexpensive vehicles was constructed and organized for the sole purpose of his humiliation.

Another believed that the institution with which she was connected parodied her life. The logical sequence of this delusion was difficult to obtain, but the idea seemed to be that, because celibacy was enforced therein, she, being unmarried, was naturally adjusted to the condition. A patient admitted to the clinic in Munich four years ago brought with him massive volumes in manuscript decorated with hieroglyphics and symbols indicating divine inspiration. He was the spiritual head of a small religious sect, similar, I dare say, to those founded by the notorious Schlatter and other self-appointed ministers of the Lord. A very common delusion is that of proprietorship in an institution in which the lot of the patient may fall. He accepts confinement and restriction as a part of the magnificent scheme of his life, and adjusts himself to

the hospital routine, the environmental horizon being just sufficiently near and small to give outlet to energies and avert the confusion, friction, and irritability incident to contact with more active minds.

It is not difficult to see in the foregoing a description of the *cranks* of the world—the “harmless insane,” the physician’s office-bore, and the neighborhood nuisance. The usual quiet conduct, the continued application to business, the ability to converse rationally on current topics, the bright memory, the logical method of presenting beliefs, the habitual volitional control, frequently deceive as to the true nature of the patient.

As a matter of fact, the so-called cranks, of this description, constitute a dangerous element in society. They are apt to make sudden homicidal assaults in consequence of delusions.¹ Many of the assassins of distinguished persons have belonged to the paranoiac class.

Dementia is non-existent in these cases. Some retain until late in the disease tolerably full possession of their original power to think correctly, except in the line of their delusions; to reason upon subjects foreign to themselves; to recollect perfectly; to acquire new

¹ They believe that in committing acts of homicide they are benefactors of society. Thus: CHICAGO, December 8.—Prendergast, the assassin, made a formal protest against the plea of insanity being introduced in his case today. When he was led into Judge Brentano’s court room, he handed his attorney, Mr. Essex, a letter in which he asked that the insanity plea be withdrawn, declaring that he believed people will get an idea that he did not kill Carter Harrison for the benefit of the people at large, but rather from a personal or selfish motive. Attorney Essex declined to state whether he would give the letter any consideration.—*Press Report*.

facts, and even to display ability in the line of construction or invention. The foreman of the vehicle plant to whom allusion has been made was a most accomplished and efficient workman.

Mr. F., a paranoiac, who was committed to a Southern hospital on account of persistent efforts to marry a certain young lady, was very much disturbed on account of his confinement, and not being able to see his lady love.

The superintendent and a friend of Mr. F., in trying to console him, suggested that "there were others." The superintendent said: "F., there are too many women in the world to go daft over one and you should follow my example. When I was courting, if one would not have me, I simply dropped her and tried another, until finally finding one who would have me." The friend of F. said, "Yes, that is right; that is the way I did."

F. very coolly remarked: "That might be all right for you two, but I am a little particular about whom I court."

Cases of paranoia will frequently offer much difficulty in diagnosis. Owing to their litigious propensities and the disposition to make sudden assaults in obedience to delusions, paranoiac patients are especially prone to get into court. The examiner will find himself under the necessity of analyzing symptoms carefully and formulating a conclusion which clever and close interrogation will not disturb. In paranoia one has to deal with the evolution of the crooked stick. Such patients grow up to be insane. They are more or less erratic from childhood, and the point where erraticism passes over into irresponsibility may be diffi-

cult to determine. These patients are extremely susceptible to outside influences, are impressionable, and those from the lower walks of life, from which their numbers are largely recruited, prove the ready tool of anarchists, revolutionists, and those who would subvert social order. In the early stages of the malady there are persecutory delusions, and in consequence of these, dangerous tendencies suddenly develop. Reasoning may be of a logical character, and the delusions not intrinsically unbelievable, as, for example, that a husband known to be consorting with lewd women is attempting to poison his wife. If, however, the wife should express the belief that poison was administered by shaking garments in her room, or that it was mailed to her in papers dusted over with impalpable powder, its essentially delusional character would be apparent. The medical examiner should preserve an open mind and not permit himself to be misled by the apparent reasonableness of what are, in fact, but morbid suspicions.

Psychological Analysis:—

Sensation unaffected.

Perception unaffected, as a rule. Occasionally hallucinations occur.

Memory unimpaired.

Organic Memory and *Personality* changed.

Ideation unimpaired.

Reasoning and *Judgment*.—No incoherence in grouping of concepts, but, reasoning from false premises, a logical delusion results.

Emotions, in persecutory stage, painful; after transition period, as a rule pleasurable.

Attention unaffected.

Will unimpaired. Reflexes unimpaired. Assaults, if made, are because of delusions of conspiracy or fraud.

Physical Symptoms, immaterial. There is frequently a distinct lack of symmetry of the head.

There is rarely any tendency to suicide. *Exceptional cases, however, are extremely suicidal.* The habits are tidy.

Termination.—Chronicity.

Treatment.—The general principles outlined in Parts IV and V of this work apply to the treatment of paranoia. Employment is of the utmost service, and under the hospital régime much valuable work may be obtained from these patients through the tactful guidance of energies, which would otherwise be largely misdirected, into useful channels.

PART IV.

MANAGEMENT OF CASES OF INSANITY FROM THE MEDICAL STANDPOINT.

IN former times it was not considered a matter for reproach for a physician to admit entire absence of familiarity with so-called mental disease. The statement, "I know nothing of insanity," was by no means infrequent—this, perhaps, from one appointed by the court to make an examination of the mental condition to determine the necessity for hospital treatment, for the purpose of advising as to an alleged criminal's responsibility, or called to give testimony upon a medico-legal question requiring expert opinion. Now all this is changed. There is a growing interest on the part of the general profession in the subject of mental disease. Medical schools are teaching psychiatry as a special branch. Clinics in insanity are held in various State hospitals, and the ability to differentiate forms of disease becomes part of the graduate's equipment. Psychopathic hospitals for the care of recent cases have been organized in different parts of the country and constitute an aid to the teaching of psychiatry in medical colleges.

It would now be looked upon as a confession of failure to say, "This patient is insane," without an attempt at least to classify the case. Just as one called to see a patient with high temperature will aim to discover the reason for its existence, so will the present-day practi-

tioner intelligently apply diagnostic principles and place the insane case in its proper category. This more serious view will prove of much practical benefit to patients. It will hasten the coming of that time when antiquated and erroneous notions of the nature of insanity will be abandoned, sentimental considerations swept away, and cases of brain perturbation showing disturbed mental action as a manifestation viewed from the same position as are those of pneumonia, gastritis, or typhoid fever.

Called to see a patient showing that group of symptoms to which the collective term "insanity" is applied, the physician is usually confronted with one of three prominent conditions giving character to the case, viz., mental excitement of varying degree, mental depression, or mental weakness.

Excitement occurs in manic-depressive insanity, in infection and exhaustion psychoses, in alcoholic or narcotic delirium, in paretic dementia, and episodally in epileptic states, in paranoia, and in the various forms of dementia, organic and simple.

The physician will usually be able, through inquiry into the antecedent condition, to assign the case to its appropriate group. In general, it may be said that extreme agitation, suspiciousness, and painful emotional states accompanying excitement argue the existence of the depressed phase of manic-depressive insanity, and self-satisfaction, mental exaltation, pleasurable emotions with flight of ideas and pressure of activity, the excited phase of this form of disease. Excitement with verbigeration, incoherency and auditory hallucinations and depression with katatonic attitudes, stupor, and negativism are strongly suggestive of dementia præcox.

Paretic dementia is to be feared if, in connection with excitement, there are pupillary changes and muscular inco-ordination, and may be suspected in the absence of these if there have been previous mental confusion, extravagant or erratic conduct, failure in memory, and marked departure from the normal in appreciation of the fitness of things, in domestic relations, and in sense of propriety extending over a period of weeks or months. The history of the case should be thoroughly sifted, and any well-established or contributory cause of nervous breaking down, such as the results of injury or a pathological condition which would, under other circumstances, require surgical measures, should be sought out and removed, but by all means a receptive attitude should be maintained and a broad and comprehensive view taken in determining the etiology.

Be the diagnosis what it may, the indications for treatment are clear, the object being to reduce excitement and strengthen self-control. The patient should be placed in bed at first and cared for as if physically ill. Years ago it was the custom to give considerable exercise to patients of this class, and the fact should not be ignored that excitement must have vent, and to repress it too much is to do the patient harm; but of late years there is a growing tendency toward the opposite course—the conservation of strength—with just sufficient exercise prescribed to divert, amuse, and furnish change.

Almost without exception, cases of mental excitement do better in bed, in a quiet room away from disturbing influences, and although it is a difficult matter to persuade one in mental elation—conscious of ability

to move mountains and perform feats of great strength—that he needs rest, the rest should be given and the vital forces husbanded as carefully as possible.

Two judicious, level-headed, quiet, unobtrusive nurses, one for the day, the other for the night, should be provided at once. These should be accustomed to the management of such cases, and preferably graduates of a training school of some hospital for the insane. Members of the family should, so far as possible, be excluded from the sick-room. As a rule, their presence is harmful. Powers of self-control exercised by the patient alone with his nurse are often abdicated entirely in the presence of near relatives. In the family there is too often erring on the side of overdoing and fussy attention and in gratifying morbid whims. Various impressions derived from the attitude and manner of solicitous relatives give rise to uncomfortable sensations in the patient. He recognizes, for example, that his mother is suffering from emotional strain on his account, and if not conscious of being out of health he is amazed—perhaps annoyed—by it. If so conscious, particularly if suffering from undue anxiety about his condition, the concern of others merely serves to add to his own load, and the delusion that he brings trouble and misfortune upon his family is liberally confirmed. In particular, where delusions are in existence concerning some member of the family, this individual should keep out of the patient's sight. It will do no good to one who believes her husband dead, ill, or unfaithful, to have the unfortunate object of the delusion in constant or frequent attendance in the sick-room. One cannot treat a disturbed condition of brain by demonstration of the falsity of morbid concepts

Better that delusions be ignored or denial of them be made only at long intervals, and positively (without discussion), than to attempt to counteract them by the exercise of logic and argument.

In excitement as well as depression there will frequently be found a state of autotoxic constipation and imperfect digestion with malassimilation. Indeed, to make a momentary excursion into the realm of prophylaxis, it is especially important to combat the tendency to constipation so prevalent among the American people, especially American women. An incredibly large percentage of nervous disease owes its existence to neglect of the bowels. It should be impressed upon patients that grave dangers to health lurk in irregularity in this function, and when constipation is in existence, systematic efforts should be made to overcome it through calisthenic exercises, liberal potations of hot water before breakfast, and abdominal massage. We are on vastly better ground for the comprehension and scientific treatment of this condition than ever before, owing to the development of the theory of auto-infection. In constipation attendant upon insane states there is no remedy so good as calomel given in sufficient doses for thorough results. Thereafter the bowels should be kept in a soluble condition by the use of the effervescent salts, aperient waters, fluid laxatives—whatever the patient can be induced to take and finds most agreeable, the calomel to be repeated when the coated tongue, foul breath, and general phenomena of impaired action of the stomach and intestinal canal give occasion for its use. A valuable drug for use in this condition is the effervescent phosphate of sodium.

I have elsewhere said:¹ "The theory of autotoxis as a causative factor in the psychoses and neuroses has furnished a working basis for the explanation of certain departures from the normal in the cerebrospinal sphere of activity. That the theory has been overloaded, possibly goes without saying. This is unfortunately true of every illuminating theory, but many pursuing the treatment of nervous and mental maladies are reasonably well assured that deductions from the favorable action of eliminatives *post hoc* justify the further *propter hoc* assumption of the causative relation of retained toxins to nervous perturbation.

"Constipation is a bane of mankind and seems unavoidable under present-day conditions of living and work. It is especially the bane of womankind, and is often developed at an early period of life through inadequate or indecent toilet facilities in the public schools. 'We have taken your advice and built our new school-house around the water-closet,' said an experienced member of a Board of Education to the writer on one occasion.

"Constipation is indubitably a factor in, if not the ultimate cause of a frightfully large proportion of mental cases. Its correction and the relief of incidental malassimilation are ends to which the experienced psychiatrist directs early effort. Realizing the importance of elimination, it is impossible to refrain from a congratulatory expression to the author of this book for his painstaking directions for the medical relief of intestinal torpor. Symptomatically the nervous case is

¹ Under the heading "Psychopathic Nephroenteroptic Symptomatology," in the book of Dr. H. W. Longyear, of Detroit, on "Nephrocoloptosis."

invariably improved by skilful attention to abdominal conditions arising from constipation. Is your mental patient restless—attend to the bowels. Is he irritable—attend to the bowels. Acquaint yourself with the condition of the teeth, the ears, the eyes, the chest organs, the kidneys—but incidentally unload the bowels. Is he sleepless—see that the bowels are active. Is he lacking appetite—empty the bowels. In the experience of the writer the best hypnotic is often a dose of castor oil, and the best tonic a colon flushing. Elimination and again elimination—*toujours* elimination should be the watchword in the treatment of morbid mental states.

“It is probable that fecal impaction of large amount is a more frequent condition than is generally recognized. Experience in many cases—one very recent—indicates that impaction may be present in extreme degree without obvious abdominal indications pointing to colonic distention. Nurses may be deceived by the appearance of regularity in patients’ stools, while emptying the intestinal canal at higher levels than the sigmoid does not occur. When through well-directed effort this finally takes place the amount of fecal accumulation may be astounding.

“That perverted emotional states in relatively healthy individuals may be induced by temporary bowel inactivity needs no demonstration to one habitually regular in this function. Prevented from its performance, there are irritability, hebetude, lassitude, malaise, vasomotor perturbation: the person’s mental output is indifferent and his emotional responsiveness is unstable. Add to the sensations thus induced the results of months or years of habitual constipation, and it is

not difficult to understand how morbid habits of thinking may be augmented, if not engendered, by chronic bowel torpor."

Further experience emphasizes the importance of the principles laid down in the above declaration. No remedies have so important bearing upon the treatment of morbid mental conditions as those of this class. Many a patient is relieved from profound depression through the daily laxative or enema or both. Many an outbreak of excitement is modified or averted by active purgation. Constant vigilance to meet the condition of constipation is necessary. As to the particular laxative, it matters less than that one which is efficient shall be administered. My preference is for the salines (Abilena Water, Hunyadi Water, Seidlitz powders, effervescing citrate of magnesium) before breakfast, castor oil at night or at any convenient time during the day, calomel in the large single dose of 3 grains and followed by a saline; lastly, the compound cathartic and the improved compound cathartic pill of the Pharmacopœia. It cannot be said of cathartics, as some evilly inspired person has said of whisky, that some kinds are better than others, but that all are good. Cascara is, in my opinion, practically valueless. It is not adapted to those states of visceral torpor prevalent in mental diseases. Supplied with it week after week, a tolerance is established. It is perhaps the most readily accepted of any of the pharmaceutical preparations of a laxative character—this because of the niceties developed in its manufacture and the agreeable character of the preparations which the pharmacutists have put out.

The remedy petrolatum, given as advised by Long-

year, has been found serviceable in certain neurasthenic states. I quote:¹ "For this purpose the author has found nothing else which serves the purpose as satisfactorily in most cases as the so-called 'petrolatum oil,' or liquid vaselin. The properly prepared oil should be tasteless, nearly clear—not amber colored—and should be thick and heavy in consistency. The thin oil, which is used largely as a medium in spray medication, is not suitable for this purpose. The preparation is chemically paraffin, and not a fat, as its name would signify, and consequently does not saponify with alkalis, or become digested or altered in passing through the alimentary tract. It is this quality which causes it to act in a mechanical way only, passing through the stomach and small intestines unchanged, and then into the colon, where, by mixing with fecal matter and coating the mucous membrane, the effectiveness of peristalsis is augmented; the contents of the bowel pass over the angulations with a minimum amount of effort and irritation, to the subsequent comfort of the patient. The dose is usually one tablespoonful taken clear twice daily on an empty stomach. The author usually directs one dose to be taken late in the afternoon, about an hour before the evening meal, and the other at bedtime. The effect of this oil is usually sufficient to cause the contents of the bowel to pass into the descending colon and in some cases to result in regular and satisfactory defecation."

It is quite evident that certain principles of treatment which are considered important in hospitals are difficult of application elsewhere, and what to do for the

¹ "Nephrocoloptosis," C. V. Mosby Company.

insane in private care often presents itself as a perplexing problem. Surrounded by anxious friends and curious neighbors, the patient noisy, the house in commotion, and the circumstances such as to call forth irresponsible comment, criticism, or censure, it is difficult for the physician to remain indifferent to the clamor for medicine to produce quiet. It can be said, however, positively and without qualification, that remedies directed to subduing the patient, depressing drugs, hyoscyamine, conium, tartar emetic (recommended in a textbook, but I fancy seldom, if ever, employed), the bromides, do no permanent good and are often productive of harm. The quiet they bring about is at the expense of strength. It should not be forgotten that, however much strength may be manifested in excitement, this is largely fictitious. To restrain muscular activity by the use of drugs is not curative. There is brain exhaustion to deal with and the rapid combustion of nervous tissues must be met by sustaining remedies and those which promote nutrition rather than by those which lower the heart's action or act directly as paralyzers of muscular activity. In the daytime, therefore, it should rarely be attempted to produce sleep by the use of drugs. Natural sleep—that which comes spontaneously or follows a hot bath, a glass of malted milk, or a salt glow and massage—should be favored at all times, whether day or night, but hypnotic drugs should be avoided if they can possibly be dispensed with, and should be used, when necessary, only at night. As a pure sleep producer, I know of no drug equal to hydrated chloral, and singularly, although all my life I have heard of the chloral habit and of chloral dependence, I have never

encountered a case of it. I have never known its use to create a craving, or its withdrawal, when the nervous system was restored to the point to permit it, to be followed by sleeplessness attributable to the withdrawal. Its use is open to objection where there is feebleness of the heart, but even in such cases where this is not extreme, its effects are happy, and cardiac depression can frequently be counteracted by the use of quinine. A 15- or 20- grain dose of chloral hydrate is as large as it is well to prescribe. Sometimes to this a few minims of fluidextract of hyoscyamus or a teaspoonful of elixir valerianate of ammonia may be added; or the bromidia may be substituted. Usually there should be no occasion, if the patient has been sufficiently and properly fed and cared for during the day, to repeat the dose more than once three or four hours after the exhibition of the first.

When sleep fails to appear after this medication, resort to other means is preferable to repetition of the dose. Kraepelin speaks of death following a 5-gram dose of chloral hydrate. This is quite probable. However, never having given to the same patient more than 60 grains in divided doses (and this in rare instances) in one night, I am unprepared to confirm from personal experience an expression concerning a lethal dose. The use of chloral in the epileptiform seizures of parietic dementia, with the exceptional case in which untoward results were obtained, and the abuse of chloral giving in alcoholism, have been discussed under these heads, respectively. In status epilepticus it is useful given by rectum in conjunction with the bromides.

Paraldehyde is an all-round, frequently available, and practically danger free drug. Under 1 or 2 drams, re-

peated in two hours if necessary, quiet, restful sleep is apt to occur. It is objectionable to the palate, but its remote effects are happy and the warmth and glow following ingestion so immediate and constant that the danger of establishing dependence upon it should be borne in mind. The drug has a wide range of utility.

Sulfonal, veronal, and trional are also excellent sleep-producers, and in some cases supply a want that chloral does not meet. In neurasthenic states and in the agitated forms of manic-depressive insanity they are especially useful. Their good effect wears out, however, and they are not well suited to nightly administration for any length of time. They are best given in hot milk, and if merely the suggestion of a hypnotic is required, beta-naphthol may be substituted.

In a hitherto-reported case of morphine addiction in which there was undoubtedly some idiosyncrasy, the prolonged somnolence following a moderate dose of sulfonal mitigated very materially the discomforts attendant upon the withdrawal of the accustomed narcotic. It is especially true of sulfonal that the "hold-over" effects are considerable and dullness occurs on the day following its administration, which interferes materially with the psychomotor output. However, in connection therewith the measure of emotional blunting may contribute to the patient's comfort temporarily.

There are cases—rare indeed—that demand and are benefited by an occasional dose of morphine, codeine, or some extractive of opium. It goes without saying that the administration of any of these medicines should be extremely infrequent, both because of the danger of habit formation and the increase in bowel

torpor, their inevitable accompaniment. The cases benefited are those of acute agitation,—frenzy,—where there is great distress and where painful delusions lead to the refusal of food and to suicidal acts, and forbid sleep. The remedies kola, coca, strychnine, quinine, capsicum, valerianate of ammonia, dogwood, are all of value in the treatment of habit cases and are elsewhere discussed. In exhaustive states attended with flushed face, muttering, shifting hallucinatory impressions, furred tongue, sordes on the teeth, faucial dryness, in short, a typhoid condition *sine* typhoid, the use of strychnine hypodermically, and the normal salt solution and quinine by the rectum, is most desirable. Coincident with their employment there frequently appear improvement in the pulse, temperature reduction, increased flow of urine, and willingness to accept nourishment. These remedies in connection with carefully managed hydrotherapy—topical cool sponging, cold applications to the head—bring relief to conditions which occasion great anxiety.

As a sedative pure and simple there is now and then indication for hyoscine hypodermically. For the comfort of the patient and the repose of the household its use may be unescapable. It must be rare, however, that necessity shall arise for its administration. Fortunately, there are hydrotherapeutic measures in vogue in recent years that quite fully take the place of that “chemical restraint” much denounced by reformers of a few decades ago who felt called upon to voice their opposition to it in tones implying that they alone were righteous and their neighbors not half as good as they should be. It is perhaps sufficient to say that in this day and age the potential prescriber of a sedative

designed to modify excitement and bring about temporary motor inadequacy will think twice and perhaps again before resorting to the convenient little tablet and hypodermic syringe and will direct that his patient be given a prolonged bath of hours' duration in water at a uniform temperature of 100° F. It is more than likely that in most well-ordered hospitals for the insane at the present time the supply in hand of hyoscine tablets has undergone a degree of deterioration through age that noticeably interferes with their solubility.

In advocating bed treatment of recent cases, I would not be understood as being opposed to giving such cases as are physically able to bear it a moderate degree of exercise in the open air. If, however, confusion and excitement are not relieved, or are increased by exercise, it should be omitted.

Tonics and remedies to promote tissue building are needed. The bitter tonics and strychnine, capsicum and nux vomica, iron preparations, the mineral acids, the hypophosphites, malt preparations, all are valuable in selected cases. Eggnog and milk punch, containing from $\frac{1}{2}$ to 1 ounce of whisky, will be needed occasionally, and whisky or brandy in small and frequently repeated doses is valuable in exhaustive states. A good indication for the withdrawal of alcohol is disturbance of the vasomotor system indicated by flushing of the face soon after its administration. Quinine is an indispensable agent in exhaustive states, and may be given in 2- or 3- grain doses per mouth or by the lower bowel from time to time, according to circumstances.

The exhibition of thyroid-gland extract, desiccated (P. D. & Co.), was followed by distinct betterment

in a case of dementia præcox of the katatonic type. Coincident with the acquirement of much flesh there were in this case dullness, irritability, and episodal out-breaks of violence. On occasions as much as 10 grains *t. i. d.* were given. This resulted in rather rapid loss of weight. Five grains, on the contrary, did not seriously interfere with nutrition and promoted composure and emotional stability. It is desirable to discontinue from time to time the giving of this remedy, resuming its administration after intervals of one or two weeks.

If restlessness, excitement, suspiciousness, or irritability are such as to generally demand more than the manual restraint of one person, it will in all probability be the better plan to place the patient in some hospital for the care of the insane. Indeed, in the vast majority of cases of mental excitement patients do better in hospitals than at home. At home the environment is that to which the patient has been accustomed and with which delusions are associated. Again, it is extremely difficult for the physician to secure obedience to prescribed regulations, owing to the injudicious interference of anxious relatives; and still, again, that ideal nurse who shall be familiar with the care of the insane, tactful, considerate, and attentive, who will leave nothing undone or unspoken which will be productive of good, but who will omit that which is irritating to the patient, is not always obtainable on short notice. In hospitals he is numbered by scores, and it goes without saying that his services are retained if possible. There are cases of acute psychoses attended by delirium which should never be removed from home, and in the decision of the question of removal the physician will often require to exercise a wise and discriminating judg-

ment; but it must at least be better, as a rule, in case means of control at home are insufficient without resorting to mechanical restraint, to place the patient where the surroundings savor of sustaining discipline, and where the influence of superior numbers is before him constantly.

The quality of mental depression which is encountered by the examiner in his investigation of a case presented may be at once suggestive of the form of disease and an aid to early diagnosis. Depression with self-centering, misgivings, doubts as to the expediency of any plan suggested or effort put forth with hopelessness and self-disparagement—occurring in the involutional period of life and attended with visceral illusions—points to presenile melancholia.

Depression with negativism, torpor, mutism, katonic manifestations and depression, with emotional states suddenly shifting to those of elation, suggests dementia præcox.

Depression with pupillary abnormalities points strongly to paretic dementia.

The manic-depressive depression is accompanied by impressions of extreme unworthiness, of sinfulness and the fear of punishment here and hereafter. The suicidal impulse is strong.

The leading characteristics of the depression of paranoia are suspiciousness and persecutory delusions.

The treatment of mental depression does not differ widely from that laid down already. In depression much better opportunity is afforded for satisfactory attention to any local disorder, for the use of high enemata, the employment of massage, and the bestowal of valuable nursing attention, than in excitement, but

treatment is much the same in the two conditions. In depression, however, there will be greater need for the use of remedies directed to improving the circulation and stimulating peristalsis. Certain drugs, like kofa, coca, and caffeine, are useful also in painful emotional states. I have never had much success in the employment of *cannabis indica*, and for obvious reasons rarely prescribe any of the alkaloids of opium. They are, however, of distinct service in exceptional cases, as has been already indicated. The static electrical breeze is of great value, given just before bedtime, for its soothing and hypnotic quality.

I am no friend of the bromides in the treatment of depression and rarely advise their use in other than the epileptic and epileptiform states. For the neurasthenic headache a simple prescription of elixir of valerianate of ammonia and aromatic spirit of ammonia is often useful. For the daily tonic prescription and for the night hypnotic "that remedy you call placebo" will be found in the end most frequently advantageous to both sufferers—the one who receives and the one who prescribes.

In the frequent cases of depression where a heart tonic is needed I have found the combination *cereus grandiflorus*, mv ; *tinct. digitalis*, mj ; citrate of caffeine, gr. j , of which a tablet is manufactured by most of the high-class pharmacutists, exceedingly valuable.

The salt glow alluded to heretofore is beneficial in promoting elimination and improving general nutrition. After a thorough perspiration is induced, as in the Russian bath, fine salt is rubbed on the body and a cold shower follows. In addition to this, electro-massage administered by the usual methods is beneficial.

When the patient will permit the attention without undue excitement, and there are indications for their use, high enemata may be resorted to every other day to insure the perfect emptying of the large intestine. Indeed, a simple enema will usually be required early in the case, and from time to time later, with or without the patient's co-operation. Fæcal impaction is by no means an infrequent condition, and immediate improvement and increase of comfort may come through relieving it. Enemata should be composed of soap-suds, to which may be added turpentine, oil, or glycerin, as indicated. Sufficient help should be present to prevent the patient from struggling and to insure against injury. This point is emphasized because of a painful, and in its results fatal, accident which I once knew to attend the administration of an enema. Either in consequence of a fistulous opening at the anus, or of a friable condition of the rectal walls, an enema was once in my experience, many years ago, introduced into the cellular tissue about the rectum. The assistance of vision in enema-giving may be imperatively necessary. The temperature of the liquid must be taken by the thermometer, and every precaution adopted to protect the patient from injury.

The heavy oil of petrolatum, of which a tablespoonful may be given in orange juice night and morning, is an excellent remedy in obstinate constipation. The normal salt solution in amounts from 6 to 8 ounces every four hours, by the bowel, is of great service in relieving fæcal impaction.

It is no less important that the function of the kidneys and bladder be looked into daily, and the catheter passed when urination is tardy or insufficient. Patients

who are inattentive frequently permit the bladder to become distended, rendering it exceedingly liable to rupture.

In mental excitement good may be accomplished in many cases by the application of the ice-cap to the head, or the head and spine, and the hot-water bag to the feet. This treatment is especially valuable in those acute exhaustive cases showing dry mouth, flushed face, rapid pulse, and elevation of temperature. In connection with these applications, strychnine hypodermically is indicated. This treatment, conjoined with the use of general tonics and judicious feeding, is often found efficacious even in highly unpromising cases.

My experience with the use of the cold pack has been limited. In certain cases of paretic excitement its employment has been of distinct service. In the use of cold water otherwise I have had a varied and satisfactory experience. In sthenic maniacal states the hot bath, with cold affusions to the head and subsequent cool sponging, or the cool sponging alone, are grateful to the patient and of direct curative value.

Prolonged baths in water of a temperature of 100° F. furnish one of the most important of modern methods in the allaying of excitement in sthenic manic-depressive and dementia præcox cases. They have been recommended also in paretic excitement, but my experience with their use in this form of disease has been unsatisfactory. The patient's body should be anointed with vaselin before he is placed in the bath. No restraint should be exercised. Permit the patient to move about, to sit up, or recline in the bath, and to splash water at will. He will ordinarily become

quiet before long and will display the good effect of the treatment. The bath may be of many hours—indeed for days continuously—but I am personally in favor of limiting its duration as a rule to three or four hours. Meals and lunches may be given while the patient is in the water. It goes without saying that the presence of a nurse in the room to prevent scalding, suicide, or other accident is indispensable.

In recent years greater thought and attention are being given by physicians to the non-medicinal side of treatment and mental therapeutics has assumed an importance unknown to the student of a generation ago. To speak of psychotherapy as a “discovery” is to misrepresent. It can by no means justly be proclaimed as such, but it is nevertheless true that physicians are now putting in practice voluntarily and to a greater extent powers employed unconsciously and to a more limited degree from the beginnings of the therapeutic art. Every uplifting suggestion, every hopeful prognostication, the gentle touch, the soothing word—all these are psychotherapeutic and as such their importance is not to be ignored. The power of the old-time family physician lay not alone in his ability to employ drugs and in his surgical resourcefulness, but also in rugged faith, spirituality, and a dominating personality. His expressions carried conviction, and in an age not so strongly materialistic his Christian profession and practice gave infusion of hope and strength and confidence to his patient. One branch of psychotherapeutics—psychoanalysis—has been mentioned in the discussion of hysteria. To cases of this group and to hysteroidal complications in other cases its methods may be applied and often with pronounced advantage.

The surgical care of patients suffering from insanity should not be neglected or omitted, and any focus of irritation, whether it be a carious tooth, an aching corn, an ingrowing toe-nail, a boil, or an abdominal tumor, should if practicable be removed. Where it is possible to correct a malposition of some internal organ which interferes with nutrition or makes injurious pressure, this should be done. I have elsewhere written¹ as follows:—

“It follows logically that any structural impediment to peristalsis should, if possible, be relieved and that if relieved, the symptoms dependent upon it will improve. Mechanical difficulties (obstructions) that surgery can reach should be relegated to the hands of the operator. The writer has no interest in that conception of surgery which constitutes it the be-all and end-all in treatment. Patients subjected to ill-advised operation are rendered worse instead of better. The efficient and helpful surgeon to nervous and mental cases must needs repress the enthusiasm for operating and intelligently apply common-sense principles in their care and medication. Many cases recover after surgery when the operation is but an episode. A morbid condition has been relieved, a focus of irritation removed, and the patient is afforded a benefaction comparable with that furnished by a dentist who extracts an aching tooth. In addition, the nursing attention, the prolonged quiet, the rest in bed are all adjuvants to his betterment.

“Again, mental and nervous cases recover where obvious and palpable lesions, as of the pelvic floor and

¹ “Nephrocoloptosis,” Longyear, page 57.

uterus, are left uncorrected. The writer has been amazed at the facility with which theoretically pure surgical cases from time to time recover without surgery; on the other hand, he has observed the beneficent results of surgical attention again and again in mental cases. Rectification of the position of a displaced kidney has been contributory to the relief of morbid depression in a case upon which Dr. Longyear operated and in which he and the writer were jointly interested.

"The pathological connection between kidney displacement and morbid mentality has been heretofore difficult of establishment. That the downward dislocation is due, according to the ingenious observations of Dr. Longyear, to a dragging on the nephrocolic ligament—the primary fault being one of displacement of alimentary and emunctory organs, with consequent embarrassment to their functioning—sheds a flood of light on the subject. The question resolves itself into one of impaired nutrition and autotoxis, and the sequence of events in their etiological bearing upon morbid processes in the nervous system is made as plain as a pikestaff. He who runs may read their significance."

Mechanical feeding should be employed if refusal of food is absolute or there is threatened exhaustion from taking too small amounts. Feeding is best accomplished by the use of a funnel and rubber tube tipped by a syringe nozzle bearing a No. 10 or 12 catheter. The patient should be in the sitting or semi-reclining position, the head bent slightly forward. Sufficient help should be in attendance to prevent successful struggling. One or other nostril will usually

be found patulous and into it the catheter should be passed slowly, care being used at the entrance of the œsophagus that the tube does not slip forward into the larynx. If possible, a timely act of swallowing on the part of the patient should be availed of to push the tip of the catheter into the œsophagus from the posterior pharynx, where it has been permitted to remain during the efforts of the patient to dislodge it by coughing and retching. The tube should be immediately withdrawn if strident or metallic cough, strangling or cyanosis appear, and an effort should be made to induce the patient to speak before the next step in the feeding process is taken. Spasmodic action, resistance, and efforts at regurgitation having mainly ceased, the food mixture of milk, broth, eggs, or thin gruel is given slowly. The quantity may be small or considerable, in proportion to the digestive capacity of the patient and the amount retained. In exceptional cases of persistent regurgitation it is desirable to introduce but a very small quantity at one feeding. Every hospital man of large experience has met with serious—some with fatal—accidents attending mechanical feeding. Hence the detail which has been employed in describing this usually simple and painless though distasteful operation.

OTHEMATOMA.—A not rare occurrence among the insane is the development of othematoma, "the insane ear." This is a swelling due to effusion of blood in the substance of the ear between the cartilage and its investing membrane. It is usually due to violence, and not infrequently develops from fistic encounters. The following laconic sentiment regarding it, voiced by one having large experience in the care of the insane, is

perhaps secretly echoed in the hearts of many others. "You all know the history of othematoma. 'The insane ear' used to be a frequent condition. In my experience it has become rare. Only once, on my return from vacation, I found in one ward an epidemic which had attacked seven ears. It was easy to obtain the pathological explanation of the epidemic; one pugilistic attendant, and the prompt imitation of the method among a few patients were the cause, and its work was easily stopped."

Time was when I believed trauma essential to the development of othematoma. For more than two decades after entering hospital work I saw few cases in which there failed the history of injury, from without or self-inflicted, or some form of accident; and in those cases not directly traceable to trauma, I think I usually suspected it. At the end of that time, however, I was consulted by a prominent manufacturer, leading a strenuous business life, but not exposed to any special danger. He had othematoma. The case recovered without deformity. It was in a way a relief that I failed to find, after the most painstaking investigation, the history of any injury whatsoever. I made all sorts of inquiries and suggestions as to how he might have bruised his ear, but he was sure he had not done so. Eventually the conclusion was necessitated that, in one case at least, an othematoma not due to trauma had occurred. An interesting fact in this connection is, that several years before this man had suffered from an attack of mental depression. He fully recovered, however, in due time.

If the hematoma is small and the swelling not very tense, it may be left to subside. The best results which

I have ever seen in a case, however, followed the evacuation of the contents of the sac and the application of pressure. On the subsidence of the swelling there is apt to be contraction of the ear and great disfigurement.

The care of the recent case during convalescence is a delicate and important matter. Access of friends and relatives to the patient should not be permitted prematurely. Effort should be directed through massage, hydrotherapy, electrotherapy, calisthenic exercises, and light physical employment adapted to his capacity, to build up the strength and promote cerebral nutrition. Let the patient vegetate mentally. Cerebral effort should never be actively stimulated, and any attempts to draw the patient out, to jolly him, to excite his interest in conversation, are apt to be confusing and provocative of relapse. The physician must safeguard such patients with the utmost care.

It will be well to hesitate long before advising change of scene and travel for neurasthenic and depressed patients. This advice is frequently given and often with injurious effect. Such patients do not bear well the introduction of new and varied percepts into consciousness, but are fatigued and bewildered by it. Their lack of self-confidence is increased by unsuccessful efforts to meet changing conditions. Travel may be suited to some cases, but I am persuaded that it has an extremely narrow range of utility.

The custodial care of an insane person in a sanitarium or hospital may be *necessary* or *expedient*. It may be necessary (1) to protect the patient from himself; (2) to protect others from the patient. It may be expedient when not necessary.

Treatment away from home, or in an institution, often accomplishes much for the patient: this for a number of reasons. In the first place, one is apt to exercise greater self-restraint among strangers or acquaintances than among relatives. Latent powers in this direction often become active after the transfer of the patient from home. He falls readily into the discipline and régime of an institution, and spontaneously displays powers of self-control not before apparent. The withdrawal from scenes with which former delusions have been associated contributes to this. Regular modes of life prescribed by others take the place of self-appointed rules of conduct. The routine itself is favorable—there is less to stimulate, less to annoy. In a hospital the patient laboring under excitement is not, as too often happens to one in the care of relatives, threatened or punished for disorderly conduct. If depressed he is not adjured by everyone he meets to “brace up.” In a hospital he becomes less introspective. He is thrown into the society of those similarly afflicted, and finds that his trouble is not more deep and abiding than that of his neighbor. He perhaps recognizes in his neighbor a deluded condition and can criticise in him the conduct which springs from morbid ideas. Each may be suffering from the same general class of delusions, and each recognize the error of judgment in the other.

Removal from home is often an advantage through substituting a real trouble for a fancied one. At home the mind is occupied by morbid ideas to the exclusion of everything else. Apart from familiar scenes home-sickness perhaps develops. As two subjects cannot occupy consciousness perfectly at the same time, there

is here substituted a healthy for an unnatural feeling, and a motive to recovery is supplied.

It is often expedient to withdraw the patient from his family—this in consequence of the influence of his conduct upon the minds of his growing children. The example of an insane member of a household, and the anxiety and worry attendant upon his care, are often to the last degree harmful, and tend to the mental deterioration of others.

It may be expedient to withdraw one from the marital relation. There is, in some forms of insanity, marked sexual excitement, and indulgences growing out of this condition may prove a serious obstacle to the patient's recovery.

An insane person's removal from home may be expedient for the benefit of society. While not actively dangerous, he may become so under provocation or through the development of new delusions. Though apparently harmless, if he is disposed to wander about and indulge in eccentricities of conduct and conversation he becomes an annoyance, and his presence is demoralizing to the community.

PART V.

MANAGEMENT OF CASES OF INSANITY FROM THE NURSING STANDPOINT.

THE successful management of cases of insanity necessitates recognition of the physical basis of mental disease, and the direction of treatment to the brain, the organ of the mind.

It is the duty of those having the grave responsibility of caring for the insane intrusted to them to have in mind these two great aims:—

1. To promote the recovery of patients.
2. To limit the amount of dementia in unrecovered cases, and thereby increase their well-being and happiness.

As every case of mental disease is a law unto itself, so must each be individualized and treated upon its own merits. There can be no wholesale plan of management.

Quickness of perception, kindness, tact, and good judgment are qualities indispensable to the success of an attendant or nurse upon the insane. Kindness implies thoughtfulness, attentiveness, conscientious devotion: sentiments which find their reflex in judicious, well-directed effort. Coddling, demonstrativeness, and display of warmth of affection are always unnecessary and frequently detrimental to the interest of patients. Kindness should find its chief expression in good deeds, not in words.

In enumerating the desirable qualities of a nurse, I would emphasize the importance of one—the sense of humor. Years of experience with those in attendance upon the insane has firmly fixed in mind the belief that the nurse who sees the amusing side, who notes her patients' whimsies and departures from conventional standards of acting and expression and derives amusement from them is practically safe and dependable—so far as intentional or even impulsive unkindness is concerned. If the nurse enjoys her patient, she will do her best possible in the patient's care and, the deeper the nurse's penetration into the patient's moods, springs of action and habits of thinking, the closer will be the *rapprochement* between the two individuals. The sense of humor is a saving grace in many a complicated situation.

The recovery of patients is promoted by

1. *Building up the general health;*
2. *Correcting pernicious habits;* and
3. *Checking morbid impulses.*

To build up the general health, there are necessary good food, exercise, abundance of sleep, and possibly medication.

The ADMINISTRATION OF FOOD is the most important duty of the nurse, and upon its successful accomplishment everything depends. Food should be delicately prepared, temptingly served, and presented to the patient in an inviting manner. Dishes and utensils should be scrupulously clean and bright; the tray covered with a clean spread; a napkin provided for the patient's use, which, in case he is fed by the hand of another, should be placed about his neck to protect the clothing. Before giving food, the person of the patient

should be cleansed, the face sponged, and hands thoroughly cleaned by the use of the nail-brush; the nails trimmed. The patient should have an opportunity to rinse his mouth with cold water, and a tooth-brush or a cloth should be used upon the teeth to remove unwholesome accumulations.

Where food is refused from inattentiveness, as in mental excitement, it is often impossible to give more than a few spoonfuls of liquid at a time. In such cases the administration of nourishment should be repeated every hour or every half-hour, as may be, those times being selected during which the patient's attention can be gained—when it is the least occupied with other matters. Inattentive patients sometimes take food better at night, when all is still, than in the daytime.

Where food is persistently refused because of delusions—as in the depressed phase of manic-depressive insanity—a careful study of the patient's characteristics and peculiarities will commonly point a way to the end, and resort to rectal alimentation or mechanical feeding will become more and more rare as experience increases. Milk is an ideal food for the insane, and in debilitated cases it is often well to give it in connection with egg and liquor, as in an eggnog. In meeting capricious and delicate appetites, gruels, custards, broths, wine-whey, beef-tea, koumyss, jellies, and fruits will all be found of service. In states of acute exhaustion or threatening exhaustion attended by unhealthy conditions of the mouth and digestive tract, lemon-juice or lemonade in small quantities is often of the greatest value. Certain patients will take liquid food in small quantities where solid food is altogether refused. A patient having delusions of poison

may accept eggs boiled in the shell, or potatoes baked in the skins, particularly if the cooking goes on in his presence, naturally believing that no poison can be introduced into these articles. One who ignores the request of his nurse or physician may eat in obedience to that of some fellow-patient. Another will take food from the dining-room after the others have left, picking up something here and there, who is unwilling to eat in the presence of others, or who believes that he is unworthy to be served until they have finished. One will eat if left alone and apparently unnoticed. Another will take food if he can acquire it surreptitiously, and opportunity should be afforded suspicious patients to thus appropriate it. One will eat crackers or bread, or fruit, if placed in his pocket. Another will exchange plates with a neighbor, and take the food prepared for him, believing that no poison has been introduced into that particular plateful. One suffering from active delusions of poison may accept part of a glass of milk if his nurse shows sufficient confidence in it to drink a portion in the patient's presence. One believing it wicked for her to eat, will often take food if it is forcibly placed in the mouth—the least show of force being all that is necessary to effect the entrance of the spoon. Under this coercion she feels that she escapes responsibility for the doing of that which her conscience disapproves. In giving food, as well as bestowing other attentions upon suspicious patients, an affectation of indifference is often very efficacious. Under these circumstances a patient believes that the nurse has no personal interest, has no ends to serve.

Whatever delusions or morbid impressions influence the patient, whether of repugnance to food or delu-

sions of suspicion or poison or extravagance (which latter cause the patient to believe that he is of finer fiber than those about him and not dependent as they upon nutritive substances), the careful nurse will, as a rule, be equal to the occasion, and the necessity for forced feeding will be avoided. There is a wide variety of liquid food of unquestioned value from which to make selection; among these milk, malted milk, Mellin's food, broths of various kinds, and Phillips's digestible cocoa are convenient for administration and adapted to weak digestions.

Mechanical feeding should be the last resort, and the operation invariably be performed by the physician. It should be borne in mind in this connection that there is oftentimes danger of overfeeding; that where a condition of much debility exists, harm may be done by the introduction into the stomach at one time of what would be, under ordinary conditions, a proper amount of food; the assimilative powers are arrested, the secretions deranged, and the organs of digestion in no condition to care for it. For the purposes of nutrition in these cases to give a teaspoonful to a tablespoonful of milk in the natural way after intervals of an hour is better than to administer a larger amount artificially. Milk, preparations of beef, milk-toast, and other albuminous foods may be peptonized or pancreatinized—artificially digested—before administering, and in certain instances a purely liquid food may be advantageously given by the rectum.¹

The exhibition of the stomach tube will sometimes.

¹ In certain cases this is helpful for its moral effect. I have known patients to take food with avidity to escape what they regarded the humiliation of rectal feeding.

be sufficient to induce the patient to take food. The following incident occurred in a Mississippi asylum. Tobe, a depressed patient, decided to end his trouble by starving himself and refused to eat for a week. After trying in vain to induce him to take food, the doctor called for the stomach tube and was preparing to feed him when the following conversation took place: Tobe—"Doctor, what is that thing you got there?" Doctor—"A stomach tube." Tobe—"What are you going to do with it?" Doctor—"Feed you." Tobe—"How?" Doctor—"By putting it down your throat and pumping in milk." Tobe—"Doctor, that thing will hurt me." Doctor—"Yes, Tobe; but we can't afford to let you starve and must feed you." Tobe (to nurse who was holding a plate of food)—"Gimme that plate, I ain't no — fool; I know when to eat."

In the ADMINISTRATION OF MEDICINE only the smallest amount of force in opening the mouth is justifiable. It is far better, under ordinary circumstances, to give medicine by enema than to force it into the mouth and compel its being swallowed by holding the mouth and nose—an expedient which is, I fear, too frequently resorted to, and of which I personally very much disapprove. In giving food or medicine by enema, however, the anatomical relations of the parts should be borne in mind and plenty of help provided, so that no danger will be encountered of doing the patient injury. I have known a fatal accident to occur from the administration of an enema. In the introduction of the syringe-nozzle the assistance of vision will be, in the case of an excited or frenzied patient, indispensable.

Medicine should be kept by the nurse under lock and key and offered to the patient in single doses, preferably in liquid form. I have known a patient to make a collection of aloin, belladonna, and strychnine tablets with suicidal intent. He cleverly transferred them from mouth to waistcoat pocket after making much ado over swallowing them with the water "chaser." Tablets containing poison should be dissolved before administration. Accept no unlabeled bottle and never retain one in the medicine closet if the label is lost or the inscription upon it dimmed. I have known an experienced nurse to pour from an Abilena water bottle an ounce of strong aqua ammonia. Its odor alone arrested her administering the dose to a patient.

PERSONAL ATTENTION AND NURSING.—The patient *should be kept tidy and neat at all times*. Everything about him—clothing, bedding, furniture—should be changed and laundered or aired at frequent intervals. Clothing and bedding must be changed immediately if soiled, and the person of the patient at each changing must be carefully bathed. *Do not neglect the teeth and nails*. Efforts should be made to inculcate fixed habits of tidiness by inducing the patient to sit upon the chamber or taking him to the closet at stated times if he is strong enough to be gotten up from bed. The condition of the bowels should be carefully looked after that constipation or other derangements may not ensue. Heed should be given that the patient urinates at regular intervals. Patients laboring under excitement fail to empty the bladder from inattention; patients suffering from depression, because of apathy and indifference. Paretic patients often have distention of the bladder because of lack of power to expel its con-

tents, or because of the absence of the impulse to urinate, arising from sensory paralysis. It is important to call to the attention of the physician any suspicion of failure of the patient to empty the bladder, that the dismal accident of rupture may not occur. The details of catheterization, giving of enemata, attention to bed-sores, and care of the feeble pertain to ordinary sick-nursing.

In nursing the insane it should be constantly borne in mind that symptoms of any disease, as, for instance, pneumonia, may be masked by the mental condition, and that complaint may not be made of pain, discomfort, or even severe distress.

TEMPERATURE TAKING.—The rule should be to take temperature elsewhere than in the mouth. I have known a patient to bite off and swallow a portion of the thermometer. The thermometer should be surgically clean.

EXERCISE.—It is of the utmost importance that one suffering from mental disease, whose strength will permit, should be taken out of doors for exercise every day in pleasant weather. Great caution should be observed to assure one's self that the patient's physical condition will admit of his going. He should not be taken for exercise to-day because of a general direction to this effect yesterday, but the advisability of the act should be invariably considered before a step is taken. There should be care that the walk is not too long; that the patient is not fatigued by it; that he is not taken into places of danger; that he is not exposed to the cold, or to the heat of the sun unduly; that he is suitably clothed; that he is not permitted to sit upon the damp ground or loiter in places where he may be

seen by others and his condition made the subject of remark. In maniacal excitement, unless the strength is too much reduced (and in a decision of this kind the opinion of the physician should be taken), walks are frequently well borne and profitable. The restlessness of mania must have vent. To repress it too much is to intensify excitement and do the patient harm. In the occupation of walking out of doors there is a diversion of the nervous energy into healthful channels. The sleep and the appetite are better, and all the bodily functions are more satisfactorily performed in consequence of it. Fresh air in abundance is introduced into the lungs; the blood is more rapidly and perfectly oxygenated—it is of a more favorable quality to nourish the brain. The bodily secretions are quickened. That form of exercise is the best in which the largest number of muscular groups can be utilized, and, in depression, that the most satisfactory which introduces a variety of healthy percepts into consciousness. This is true for obvious reasons, it having been shown under “Limitations of the Will” that a thought cannot be dismissed by mental effort, but must be supplanted by another in order that it may be removed. Patients suffering from mental depression are frequently averse to going out of doors, or even into the society of their fellow-patients. In overcoming this disposition, the nurse is promoting his patient’s well-being and lessening the intensity of morbid mental operations by presenting healthful subjects for contemplation. Pleasurable emotions stimulate vital activity. All are aware of the depressing effects of trouble—bad news, mental shock—how they take away the appetite and derange the bodily functions. The

contrary is true of pleasurable emotions. All of the vital functions are stimulated by these to greater activity; hence their importance as aids to the recovery of the insane.

In depression with hypochondriasis there is, generally speaking, disinclination to take exercise, and it is important that this disposition should be met and the determination of the patient to remain indoors, in his room or in bed, be thwarted. Much caution should be observed, however, that undue exercise is not taken, and the patient's complaints and protests should be duly weighed.¹

EMPLOYMENT and DIVERSION are desirable for the same reasons that exercise is desirable. Through them healthful topics of thought are introduced to displace those of a morbid character: the muscular action is diverted from unhealthful into healthful channels; voluntary control is stimulated; the ability to fix the attention is increased; restlessness, disorder, and destructiveness are diminished; sleep, appetite, and the bodily functions are improved. The furnishing of a congenial diversion, such as taking a patient to a concert or a church service, often supplies an effective motive for self-control and is a stepping-stone to his recovery.

In recent mental diseases employment is of service

¹ I once knew a hypochondriacal patient to be sent out of doors for a walk by her physician, it being believed by him and by all who had dealings with her that her objections to going out were purely mental, and that there was no physical condition which would be a barrier to the exertion. On the morning in question she had gone but a few steps when she fell dead from heart failure.

for the immediate well-being of the patient, substituting new topics of thought and directing the energy along useful lines.

In *arresting the tendency to dementia*, employment is of the utmost value. In settled dementia we not only find employment an outlet for nervous energy, which is apt to expend itself in moving restlessly to and fro, in picking at the clothing, and in degrading habits, but we possess in it a means of re-education of the brain, of opening new routes of nervous travel, and bringing into action groups of nerve-cells not formerly in commission. As my experience increases I am more and more convinced of the practicability of employing almost all patients, no matter what their mental condition may be—save those, of course, enfeebled in body from paralysis or other cause—in some line of work. The employment may be simple, but will be found sufficient to contribute materially to the welfare of the patient and that of others.

Knitting is an employment of great value. Knowing my interest in it, a patient once wrote the following acrostic:—

Such a great panacea for all human need,
At last is discovered they say;
Let me tell you no joke is intended, indeed,
Vive la science! (of knitting) this day.
Away with such nonsense as powders and pills,
They rather increase than diminish our plight,
If all I have heard be quite true, then it kills
Oftentimes to be dosing from morning till night
Now or never this fact must be truthfully told,

It is work that makes all life complete without blight
No distinction, no rank, no, not barrels of gold

Will give one the joy that one neatly knit bag,
Or a pair of golf stockings just done to a turn,
Rosy mittens, bed slippers, a handy wash-rag,
Knit, my friends, by the sweat of your brow. You shall learn
Contentment. The reason is evident now.

Why the Doctor's accustomed to knitting his brow.

By introducing variety (not too much variety, but a little diversion and change) into the daily lives of patients, we are helping mental action, substituting new topics of thought, and widening the mental horizon. Patients should be induced to do different things or the same thing in different ways. If a morbid tendency leads one to remain in a certain position for hours at a time the current should be interrupted; something new presented in exchange for the old. If a particular seat is selected in obedience to a habit of dementia, change the location of the chair, or furnish another surreptitiously. If the patient insists upon sitting in his room unoccupied and absorbed in morbid thoughts, induce him to work, break up in some way the dry routine, and force, little by little, little by little (not too rapidly, lest he tire), some healthful concepts into his consciousness. The use of games should be general and frequent, and in patients who have no natural desire for amusements a taste should be cultivated. Be it ever so simple and child-like, occupation or amusement of some kind introduced into the patient's life will be of great service to him.

In the progress of mental disease brain waste is rapid. Restoration and repair are brought about during SLEEP. It is consequently important that nothing should interfere with the patient's obtaining

a suitable amount of rest. Exercise and employment in the daytime and the establishment of fixed habits of living go far to bring this desirable state of things about. Inability to sleep frequently depends upon actual starvation of the nerve centers. Under such conditions the taking of a little food just before retiring—as a glass of hot milk or a cup of cocoa or chocolate—may be all that is necessary to induce repose. A warm bath or cool sponging to the spine will also be found of value in some cases. Where medicine is prescribed for the purpose of producing sleep it should be administered under the careful directions of the physician; should, as a rule, not be given where circumstances warrant its temporary withdrawal; and should be discontinued as soon as habits of sleep are measurably re-established. In this matter, as well as in others connected with the management of such cases, the patient's individuality should be carefully studied. The reason why he does not sleep should be discovered, if possible, and means taken to meet the indication. One persistently wakeful and noisy at night—this from sheer timidity when sleeping alone—may be quiet and calm and rest well in a dormitory with others. A patient whom I once had under observation, who for years was thought to require a hypnotic at night because of noisy demonstrations, slept like a child after being placed in a covered bed, because he believed that while there his enemies could not steal his sheep. Another patient, suffering from a chronic form of disease, was noisy the night through until afforded one day the opportunity to lie down for an hour. That night she slept, and on succeeding nights, if she had napped in the daytime, she rested

well. *Aching teeth, of which the patient may not complain, are an occasional cause of sleeplessness.*

Prolonged rest in bed is frequently necessary. Certain cases of manic-depressive insanity of the alternating type are, in disturbed periods, quieter and more comfortable if permitted to remain alone in bed than if up and about. Here exhaustion of the brain is less, the horizontal position affording a means for more perfect nutrition of that organ. Fewer percepts are introduced into consciousness, and mental confusion is less. In ordinary recurrent cases this plan would be inadvisable, but in those exceptional ones attended by much confusion and a high grade of excitement it is frequently of great service. In acute exhaustive conditions the patient should be kept in bed to prevent further physical decline, and should be nursed as one in the delirium of fever. In depressive states attended by great physical prostration, the mental operations are often surprisingly improved by a few days in bed in a horizontal posture—this for the reason already given.

The *objections to rest in bed* are: the dangers of *suicide*, of the *formation of habits* of inactivity, and of the development of *untidiness*. These objections may be met by watchfulness and attention.

Bathing.—The presence in the room, even when her assistance is not actively needed, of the nurse, is necessary to ward off the danger of intentional drowning, of scalding, or of accident. During the prolonged bath, pulse count should be made at frequent intervals and if any marked acceleration or lowering of the rate is discovered the fact should be at once reported to the physician in attendance. Where his advice is not

available, the bath should be immediately suspended, the patient placed in bed and cooling applications made to the head and upper part of the body.

Correcting Pernicious Habits and Checking Morbid Impulses.

As the tendency of the insane person's mind is toward neglect in personal appearance, disorder, lack of self-control, contemplation of morbid subjects, and impulsive acting, the energies of those having the responsibility of his care should be directed to the establishment of neatness, the correcting of habits of neglect, the repression of evil or pernicious tendencies, the substitution of natural for unnatural thinking, and the restoration of habits of self-control. This is symptomatic treatment.

In the care of the insane *punishment should never be employed.*

Punishment is the infliction of pain for a crime or fault. The insane person, having lost by disease his ability to feel, to think, and to act in a natural manner, is not responsible and should never be punished. It is appropriate, in my judgment, to supply certain motives to self-control; as, for instance, withdrawal of tobacco from those untidy in its use; or denying those who have been guilty of improprieties the privilege of attendance upon assemblies. These disciplinary measures, though possibly regarded by the patient himself as punishment, cannot justly be thus considered. They are steps taken with the end in view of promoting the patient's self-respect and establishing habits of neatness and self-control. *The withdrawal of food or any*

of the necessities of life, as a correction for a fault, could never be, under any circumstances, excusable, though, on the contrary, on rare occasions the furnishing of a reward—as fruit, candy, or a delicacy—because of some particularly praiseworthy and commendable conduct, may be wise. Scolding or harsh and ungentlemanly or unladylike language should never be indulged in. It does no good and is the source of no end of disagreement and trouble. *One is never excusable for incivility;* and any tendency in this direction which the nurse is conscious of in himself or which he sees in others—patients or employees—should be corrected where practicable.

Employ the prefix “Mr.” or “Mrs.” invariably in addressing your patient. Make requests; do not command. A request pleases; a command antagonizes. An attitude of imperiousness toward the patient diminishes his regard for the nurse, and if the “order” is obeyed it is at the cost of his self-respect. The nurse should be equally careful not to be patronizing. To the majority of patients a patronizing air is highly offensive.

In the government of patients, a firm, judicious position should be taken and maintained. *Be sure of the right and propriety of the course, then consistently pursue it.* Let the judgment be made up calmly. Waste no time in arguing or in reiterating again and again what will be done in case compliance with a request is not forthcoming. The repeated *You shall’s*, which only call forth the *I shall not’s*, anger both parties and are unseemly. After calmly and dispassionately telling your patient what course will be taken in case of indulgence in some particular line of con-

duct, carry out the plan without further talk if the conduct is repeated.

"How do you get on with this patient so well nowadays?" I once asked a nurse. "I guess it is because I've quit having the last word," she replied.

Avoid too much talking; heed reasonable requests; take a firm and judicious position and maintain it.

The ideal nurse is calm, unassuming, serene, and well poised, not too talkative, but responsive. He loses no time by false motions and does not require to do work twice over because of failure to perform it well in the beginning. He does not make the mistake of being overzealous. He realizes just how far he may be suggestive without antagonizing his patient and arousing irritability and resistance.

Some of the best-meant efforts fail from overdoing. This is notably true of those which are attended by too much talking. Talk often tires. In conversation with one whose mental powers are weakened by disease, one should always remember the danger of overstimulation producing mental fatigue and confusion.

The ideal nurse performs his duties noiselessly, spends no time in getting ready to do, wastes no words about what he is planning, but quietly and determinedly acts upon his best judgment. There is no assumption of arrogance in his demeanor, no blow and bluster, no fuss and feathers. He merely displays a quiet assertiveness and a fixed resolve, the effect of which latter is intensified by the unostentatious, unobtrusive manner behind it. It is the tactful, the discreet, the judicious man, not necessarily the one of great physical strength, who best succeeds in the management of cases of mental disease. Great physical strength is

desirable only if there is present with it that gentleness in its exercise which one of well-disciplined mind displays. There is danger if its possessor is led into the error of relying upon it to the neglect of those means of management which are the result of thought, good judgment, and careful study. I once knew a nurse who was affectionately dubbed "Charles" by the gentleman for whose wants he was providing. "How do you get on with Charles?" I asked the patient, one evening after having during the day, myself unobserved, witnessed the relations of the two while out walking, noticed the self-contained manner of the nurse and his judicious meeting of what might have proven a serious episode. "Very well," was the gentleman's reply; "very well, indeed. He has his own way usually. Charles is a very determined man, a man of very few words; but when he says come, you might as well come."

One should be determined, but invariably polite. Insistence against the will of another upon a course of action is robbed of its offensiveness if it is politely made. One should not say "come" unnecessarily and should be very careful not to take a position with a patient which he cannot defend. He should never threaten something which he could not do with proper regard for the welfare of the patient and the institution whose reputation he has in his keeping.

When necessary to say "come," say it kindly. "I would if I were you," is an expression infinitely less repellant than "you must"; but even these unpleasant words may be deprived of offensiveness by a gentle apologetic manner in the speaker. Never say "you must" unless compelled to. If what you ask is not ac-

corded with, do not repeat the request, but gently and firmly enforce compliance with it.

MANUAL RESTRAINT, when necessary, should be applied with the least possible show of force, and never with violence. Forcible control may be necessary to protect the patient from himself and to protect others from him. It is also expedient to prevent bad habits and improprieties, to correct tendencies to restlessness and excitement, and to promote self-control. In my experience, force judiciously applied and used as a last resort is rarely, if ever, complained of, and does not give rise in the mind of the patient to a permanent grudge or grievance. If, however, the exhibition of force is the last link in a chain of unpleasant circumstances, for which the nurse is to blame, its employment is not apt to be forgiven. To illustrate: A command to do some particular act is made, and is opposed because of the gruff or authoritative manner behind it; a dispute arises; attempts to coerce are made and resisted; both nurse and patient become angry, and in the end the patient suffers forcible control for that which was not his but the other's fault. He is irritated and affronted, and justly so. He has been treated badly.

The surroundings and person of the patient should be spotlessly clean. An effort should be made, by the introduction of pictures, books, pretty furnishings, musical instruments, and games, to substitute healthful for morbid topics of thought. Seek to get the patient employed. One is always more self-respecting when useful.

In the *correction of certain vicious habits*, more or less frequent among those whose self-control is weak,

active manual employment in the daytime and watchful attention at night are the only agencies upon which safe dependence can be placed.

The *suspiciousness* of patients is best met by frankness and consistency, or, as mentioned under "Administration of Food," by apparent indifference.

It is important that the nurse should be in the confidence of the patient; hence the necessity that the latter's early impressions of his surroundings should be favorable. In order to counteract morbid impulses, the nurse must know about his patient's mental operations. Unless in his confidence, these may not be revealed.

Patients are suspicious of what they do not see. It is unquestionably true that numberless accusations of abuse are based upon sounds which patients hear issuing from rooms with closed doors. Hence, so far as is consistent¹ with modesty and propriety, permit patients to see how others are cared for.

In the matter of delusions, be frank, but do not antagonize. If a patient states that he is God, it is entirely unnecessary to retort: "No; you are not." If, however, he asks: "Am I God?" it is the duty of the nurse to say: "We are taught that the Lord has never appeared upon earth but once, and then in the person of Christ, many years ago." In this or in some other way the question may be evaded, or the nurse may quietly and pleasantly say: "No, sir; that is an erroneous belief." Further discussion of the matter is unnecessary and inadvisable. This applies to recent cases, on the one hand, and, on the other, to cases

¹ See "Homicidal Impulses," page 220.

having confirmed delusions of long standing. In the case of a convalescent patient, however, just as the mental cloud is lifting, timely, judicious conversation may contribute much toward assisting him to correct morbid judgments and control diseased impulses. "He (pointing to the nurse) is the first man that ever told me those ideas of mine were not right," said a patient. "At home, when I said 'I have the light here' (opening his coat), they told me it shone all over the room. He told me that wasn't so, and that such ideas would not be believed here."

Homicidal assaults may arise in consequence of delusions, or impulsive acts not intentionally homicidal may result in death. The delusions which lead to homicide are: first, those of persecution or of conspiracy; second, those of impending want and misfortune. The only effective precaution against homicide is vigilance. It is the duty of the nurse, in cases of quarrels between patients, to interfere. This may often be cleverly done by requesting of one his assistance in some form of work at another part of the room. Knives, scissors, and sharp instruments should always be kept under lock and key. Brooms, mops, dusters, and articles of this kind which may be used as weapons, should never be left about, but locked up immediately after using. Chamber utensils should be dealt out only under watchful supervision. Bath-tub keys, which may be used like a brass knuckle, or with which hot water may be drawn, should never be permitted to come into a patient's possession. The searching of clothing, bedding, and rooms should be systematically done—in many cases daily, in the majority of cases twice a week. A threatening blow may some-

times be arrested by seizing the roll of the coat with both hands, and quickly drawing the coat down upon the arms.

Homicidal impulses may exist for years under control and then suddenly develop; hence the importance of being fully informed of the character of the patient's mental operations, and being ever on the alert for the "unexpected," which is said always to happen.

The impulsion to homicide may arise in strange ways. A patient in an Eastern asylum who required to be repeatedly fed artificially and always strenuously objected to the process, was struck and instantly killed by a morose and reticent patient who had watched the feeding process and had not approved of it. In accounting for his conduct the homicidal patient said, "I killed him so that he would not have to be fed any more."

Suicide and self-mutilation may be prevented by close watching and attention to the care of knives, sharp instruments, broken glassware and crockery, and other articles with which injury may be inflicted. Suicide by precipitation is relatively frequent; hence, the necessity for watchfulness when patients are out walking, that they do not go into dangerous localities; that they have no opportunity to throw themselves before automobiles or street cars, from high places (as ladders or fire-escapes), under loaded wagons, or into water. Care should also be exercised that they pick up nothing with which they may injure themselves subsequently. Indoors, attention should be given to suicidal patients when going up and down stairs, and the door to any shaft should be kept closed and locked every moment when the nurse is not standing before

it. Be watchful lest suicidal patients throw themselves into open fireplaces, scald themselves, drown themselves in bath-tubs, hang themselves in roller towels, in sheets tied at the window-guards, or in skeins of yarn suspended from gas-fixtures. A patient whom I once knew jumped up from the rocking-chair in which she had been quietly sitting, faced the chair, and sprang into it, only to throw herself backward upon her head. She died almost at once. Unavoidable accidents of this nature will sometimes arise, notwithstanding the most careful watching; but let no patient be afforded the means of committing suicide, homicide, or self-mutilation through the carelessness of the nurse. *Do not make the mistake of believing that because a patient continually talks of suicide he will not carry threats into execution.* Several fatalities have occurred in my knowledge among patients of this class.

Irritability.—This is frequently an expression of physical pain of which the patient does not complain. Its source should be looked for in sleeplessness, headache, aching teeth, abdominal pain, constipation, distended bladder, etc.

MECHANICAL RESTRAINT.—In the early days of my hospital experience it was thought necessary to use mechanical restraint often. Employment, night-nursing, the prolonged bath, and personal attention have done away with this necessity, until now in a well-ordered institution resort to it is a conspicuous rarity. It may be necessary in exceptional cases, but should never, except in a grave emergency, be applied without the previously expressed sanction of a physician. A patient in restraint should be visited at least once each

hour; the bedding should be inspected, and necessary changes made. A patient in restraint is helpless and necessarily more or less uncomfortable from the limitation of muscular movement. Much can often be done to mitigate discomfort by friction of accessible portions of the body, by cold sponging to the face and neck, or by the application of water warm or cold to the forehead. Bear in mind to offer drinking water at frequent intervals to one in this uncomfortable situation.

SECLUSION.—The isolation of a patient may be expedient for his own benefit, or for the good of others. When done, this should be with as little demonstration and display of force as possible, and only after due warning has been given. The course may be necessary; first, because of noisy and disorderly conduct; second, in hysterical patients as a measure of good (lack of self-restraint in these cases always being greater when the patient is among other people); third, because of obscenity or indecency; fourth, to withdraw the nervous subject from perturbing influences and thus diminish mental confusion.¹

Patients in seclusion should be visited frequently. After quietly unlocking the door (doors should always be unlocked quietly) the key should be withdrawn and placed in the pocket before the door is opened. Both

¹ Epileptic patients during confusional states are frequently benefited by confinement to bed. Noise and disorder are lessened, and, fewer percepts coming into consciousness, reaction, as manifested in impulsive assaults, is diminished. After secluding the patient, the door should be locked quietly and without ostentation, or may be left unlocked if it is believed that the patient will respect the injunction to remain within the room.

hands of the nurse are then free. The practice of unlocking a door and pushing it forward, hand on key, is *extremely reprehensible and dangerous*. In entering the room of one who has broken some piece of furniture and is making threatening demonstration with a weapon thus secured, an effective protection is a mattress held before the foremost person. By means of this the patient may be crowded back and disarmed.

The *objections to seclusion* are: the danger of suicide; the danger of increasing irritability; the danger of untidiness. A *suicidal patient should never be secluded* except with the previously expressed consent of the physician, and, if apart from others, should be carefully looked after. Seclusion sometimes increases irritability, ill feeling, and waywardness. When this occurs harm results and the measure is inexpedient.

The *disposition to burn and the tendency to steal* are observed in different forms of insanity. The fact that these symptoms are conspicuously manifested in some cases has led to their being improperly dignified by special names for disease: as pyromania and kleptomania. The tendency to burn is most frequently observed in connection with chronic delusional insane conditions and in imbecility; the tendency to steal in the early stages of paretic dementia, property being appropriated by the patient under the delusion that it is his own. Patients who are demented are apt to secrete articles of no value, or little value, and unless carefully observed get together accumulations of rubbish and useless trumpery.

Searching the clothing, the bedding, and possessions of patients for matches and other articles collected, and extreme watchfulness to prevent things of this

nature falling into the patient's hands, are safeguards against accidents from these sources.

DESTRUCTIVENESS.—Certain patients are as susceptible as little children to rewards, and right doing may be stimulated by promises of such. Where the habit of destructiveness, particularly destructiveness to clothing, is thoroughly formed, however, it is difficult to correct it and the ability of the patient to restrain the impulse to tear soon wears out. One patient whom I knew was offered by the superintendent a penny a day for every day that he kept a new suit of clothes in good order. He received his penny each day from Monday until Saturday inclusive. On Sunday night he was found in a state of great dilapidation. "Oh, Frank, I am very sorry to see you in such a plight," said the superintendent. "You have not earned your penny to-day." "Well," was the stuttering reply, "I'll be d—d—d— if I'll work S-S-S-undays."

ESCAPES.—In these days of open-door halls, employment out of doors, and the giving of larger and larger liberties to patients, escapes will unfortunately occur. They should never be chargeable to lack of vigilance or to disobedience of rules or regulations. Escapes, as other accidents, only too frequently take place as the result of neglect of printed rules. Remember that the escape of a patient may mean a homicide, an act of arson, a suicide, or some ghastly episode, accountability for which would be deeply regretted.

Never, under any circumstances, talk of the condition of any patient to any person not entitled to receive information about him.

It is as true of the nurse as of the physician that highest efficiency is not reached without the develop-

ment of the spiritual side of the nursing art. It is even more true in fact as the nurse's contact with the patient is infinitely closer and opportunity for helpful suggestion is correspondingly more frequent. It is important that the nurse should be early imbued with the idea that medicine-giving is not the alpha and omega of treatment, even when it is a question of the relief of pain, which may be so readily quieted by resort to what a patient once stigmatized as the "hypo-devil." It is feared that many nurses with *carte blanche* to administer them too early turn to sedatives and hypnotics and give them in too liberal quantities. Strong suggestion suffices in many cases. It was once remarked by a surgeon in my hearing that a certain nurse trained in a sanitarium making little use of drugs was the most efficient he had found in the care of surgical cases. She was resourceful, had ways of meeting the little complaints of patients—resting them by change of position, rubbing them or readjusting bed-clothing—that were frequently disregarded by the surgical nurse of general hospital training.

It is, perhaps, not too strong a statement that the emotions have a weighty influence in the repair of tissues. It is a fact of the commonest experience that emotional depression is a constant accompaniment of operations upon those organs most liberally supplied by the sympathetic nervous system. That healing of such parts after surgery may go on satisfactorily, it is the custom to divert the patient so far as possible from contemplation of the local symptoms by taking him from bed and supplying entertainment. That this may be overdone goes without saying, but the adoption of the method by surgeons indicates how important to

the healing processes a cheerful play of the emotions is regarded.

From among nurses caring for the insane whom I have known there might be constituted a large army of men and women, than whom none could be more loyal, true, devoted, and self-sacrificing. If their merits have sometimes seemed to fail of appreciation they are at least entitled to the comfort that springs from the reflection:—

“Charity ever finds in the act reward.”

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